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ADVENTURES

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WAR OF THE GIANT APES By **ALEXANDER BLADE**
MARS INVADES THE EARTH BY MIND CONTROL!


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NUMBER 4

FANTASTIC ADVENTURES

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THE EDITOR'S NOTEBOOK

By The Editor..... 6

HOT NOISE!

By Carter T. Wainwright..... 7

CYBERNETICS—NEW SCIENCE

By H. R. Stanton..... 36

TELEPHONE ROBOT

By Sandy Miller..... 37

GOD OF LOVE

By June Lurie..... 76

THE INTEGRAPH

By William Kerauey..... 77

GEOGRAPHIC SURVEY

By Milton Matthew..... 86

FANTASTIC ADVENTURES CROSSWORD PUZZLE

By Bruce D. Kelly..... 87

WHIRLING WHIPS

By Marty Mesner..... 113

BURIED TREASURE

By Walter Lethrop..... 139

SCIENTIFIC ODDITIES

By Lynn Standish..... 140

FANTASTIC FACTS

By Lee Owens..... 143

READER'S PAGE

By The Readers..... 146

EARTH-SHAKER!

By J. R. Marks..... 149

THE TUBE THAT SEES

By L. A. Burt..... 150

LOVE'S ELIXIR

By A. Morris..... 152

GRECIAN SPHINX

By Cal Webb..... 153

MAG AND GRAY

By Leslie Phelps..... 154



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All Stories Complete

WAR OF THE GIANT APES (Novellette—17,000).....by Alexander Blade..... 6

Illustrated by Murphy Anderson

Everyone on Earth welcomed the Martian Ape except Dan Moran—and he had a good reason not to...

THE MURDER RAY (Short Novel—23,200).....by E. K. Jarvis..... 38

Illustrated by Bill Terry

The mysterious Kuvar had doomed six men to die—with a weapon that couldn't be detected! . . .

BLUE BOTTLE FLY (Short—4,000).....by Geoff St. Raymond..... 78

Illustrated by Bill Terry

Is reality what we think it is—or are we living on borrowed time in an alley of nightmares? . . .

SHE (Novellette—15,000).....by Reg Phillips..... 88

Illustrated by Julian S. Krupa

Twelve minds banded together to form a super intellect—and not one of them seemed aware of it . . .

PERIL IN DRAGONIA (Novellette—15,000).....by Mollie Claire..... 114

Illustrated by J. Allan St. John

The Day of the Destruction of the Machines was at hand, and all Dragonia was in dire peril . . .

Front cover painting by Edmund Swiatek, illustrating
a scene from "War of the Giant Apes."

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The Editor's Notebook

A CONFIDENTIAL CHAT WITH THE EDITOR

BY NOW you've been properly awed by this month's cover, we'll bet. And a terrific painting it is. You'll note that it's by another FA find—Edmond Swiatek. All of which goes to show that we're in there pitching to give you the best artwork obtainable! We let the artist read the cover story and told him to go ahead and paint a really terrific scene. He took us at our word and turned in the fascinating cover that you've been admiring. (Well, haven't you?)

WHICH brings us up to the cover story itself. "War of the Giant Apes" is the great new yarn by top-notch Alexander Blade. We won't tell you a great deal about the story here, but we will say that it concerns the first expedition to Mars and what an Earthman found there—and brought back to Earth. That's enough to arouse your interest, we'll bet, but just wait until you get into the story! You'll find some thrills and surprises waiting for you that we haven't even hinted at. So start reading. . . .

WE'VE received numerous letters from you readers asking us in no uncertain terms just when in the name of the *Marion Gossawks* we were going to present a new story by E. K. Jarvis. Well, we didn't exactly have to go to Mars to find Jarvis—but nearly so at that. Trying to locate a writer is not always the easiest thing in the world. Writers (at least some of these we

know) are more like Arah, sidling away into the hinterlands with their typewriters, seeking inspiration. Well, anyway, we found Jarvis and said something like this: "Now looky here, Ed, the readers of FA just won't stand for any more delays—how about a new yarn?" And imagine our surprise when he said he had a manuscript on the way at that very moment!

YOU'LL find it on page 33, entitled, "The Murder Ray," and two things about it should make you well satisfied. It's a mighty swell yarn, number one, and number two, it's a short novel in length, thus guaranteeing you some mighty pleasant reading. What's the yarn about? We'll let that be a big surprise to you, since this is Jarvis' long awaited return to the pages of FA. But from the title, maybe you can get a rough idea—but don't be too sure!

GEOFF ST. REYNARD returns this month with as unique a short story as we have ever read. "Blue Bottle Fly" is not the usual type of tale—because you as the reader will actually play a part in the story! There, now, isn't that unusual? And we're not going to say much more about it, because that would spoil everything. One comment we will make. After you finish this yarn you'll do one of a number of things. You'll say, "Oh, heck, it's just a story, nothing to worry about," or maybe you'll laugh and say, "Impossible!" or maybe—and more likely—you'll glance around the room and feel a little shiver of uncertainty sweep through you. Let us know how you felt. . . .

ROG PHILLIPS is always big news. And this month he presents a novelette that will really thrill you. "She" is the story of a super-human entity to end all s.h.e.s. That will show you where the title comes in. Now we'll let Rog take over and give you some thrilling moments as you start reading his story. Fair enough?

FINISHING up this issue is a new writer, Mollie Claire. Her story "Peril In Dragons" is one of those thought-provoking yarns that will have you reading avidly to the last line, and maybe after you've finished it you'll wonder whether it's fact or fantasy. Anyway, we think you'll like it, so take it from there.

WHICH brings us to the end of this month's selection. Next month? How about a great new Phillips novel? O.K., see you then.—WLH



"Keep your eye on the birdie!"



HOT NOISE!



By CARTER T. WAINWRIGHT

THE measurement of temperature is one of the most fundamental and basic operations in the whole realm of physical science. As a matter of fact, outside of the measurement of length and weight and pressure, temperature measurement was one of the first accurate scientific activities.

The invention of the simple thermometer using mercury or alcohol, provided science with an important tool. And for a long time most temperature measuring instruments were variations of this basic one, the expansion of a liquid or a solid with an increase in temperature.

As time went on, extremely accurate mercury thermometers were developed, and with the aid of auxiliary optical apparatus and extreme care in handling, they were made capable of reading temperature to hundredths of a degree. The trouble with such instruments was the usual one: they worked well, only in a limited range of temperature. For example, a mercury thermometer is ordinarily good for only about forty degrees below zero to a few hundred degrees above zero. With such limitations, measuring high temperatures is difficult indeed, and for a long time scientists were content with approximations.

Later on, it was found that certain metals could be used in thermometers when they were sealed in high temperature glass tubes, but even these were useful up to merely a thousand degrees Centigrade.

Another way of indicating temperatures was to use cones of materials which melt at known temperatures. But these too were only approximate.

Then it was discovered that the relative brightness of a substance was a measure of its temperature. Using that fact, the optical pyrometer was invented which compared the glowing hot substance with a metal filament heated to match its color. From previous calibrations it was then possible to read the approximate temperature.

With low temperatures the problem was as bad and most measurements of temperature were approximations based usually on a long indirect chain of observation. What science needed up until very recently was some sort of temperature measuring device which would be very accurate, comparatively simple in operation, and capable of ranging from absolute zero to many thousands of degrees.

Well, such a gadget has been invented, but before we discuss it, let us consider what is meant by temperature. Temperature is a measure of the intensity of molecular motion of a substance. As we heat anything, we are setting its molecules in more and more violent motion. Actually the temperature is sort of an average measure of the

molecular violence of motion because, as is well known, the individual molecules may have a wide range of velocities at a given temperature.

The answer to measuring temperature came from a wholly unexpected source—a condition which occurs surprisingly often in modern science—the field of electronics and radio.

For a long time, radio and electronics engineers have been bothered by what is known as "noise" in their amplifiers. In fact, very often, the amplifying effect is limited by this noise. When the signal is feeble enough to compare with the noise, amplification is of no use because the noise and the signal can no longer be separated. Engineers have known of course what this noise is—it is essentially a lot of tiny voltages due to the random motion of free electrons in, for example, a hot filament.

And therein lies the answer. If these free electrons bounding around within any substance set up minute electrical voltages, which vary with the temperature of the substance, why not measure them and thus deduce the temperature—after suitable calibration. And that is what has been done.

The motion of these free electrons increases with the increase in molecular motion—that is to say, with the temperature—and consequently that measure is a measure of the temperature. An instrument, electronic and complex, has been designed which changes these little electrical impulses to visible pulses on a cathode ray tube screen. They can be measured accurately and show the precise temperature.

Furthermore, the instrument covers the entire range of temperatures from absolute zero (actually a fraction of a degree above it) to five thousand degrees Fahrenheit. And the higher the temperature the more accurate the measurement. Furthermore, it is completely unaffected by material or by pressure. With these qualifications the ideal instrument has been found.

Naturally it is too bulky to be used where an ordinary thermometer will suffice, but in steel mills, foundries, in jet engine work, in glass manufacture and everywhere else where hitherto it has been hard to determine high temperatures accurately the new tool will be invaluable.

Like most new instruments it is complex requiring lavish power supplies, CRT tubes, amplifiers and so on, but given time it will be simplified to the point where it can be used without laboratory precautions. That is usually the case with all new scientific instruments.

So the annoying and unwanted "noise" effects of the electronics engineer becomes the useful and wanted tool of the high temperature men.

WAR OF THE GIANT APES

By **ALEXANDER BLADE**

**The Council of Earth plotted to take
over Mars—but Mars had planned it that way**

A powerful ray of energy swept from the front
of the giant space cruiser, bathing the white
ape in its glow, taking control of its mind . . .





THE great earth space cruiser hovered in the thin Martian atmosphere, a sleek, tapering monster of metal, its atomic engines stilled now.

In the control room, Dan Moran, Commander, Space Patrol, stood before the visiplat, his eyes tense with excite-

ment as he stared at the rapidly approaching Martian city.

Beside him he heard Blake Fenton, second-in-command, suck in his breath. Fenton, tall and with a long face that gave him an appearance of being hawkish, was staring with narrowed eyes. There was excitement in them, too, but unlike Moran, there was something else. A shadow of speculation, as if his thoughts were far ahead of the present, planning secretly.

"So this is the great Martian civilization." Fenton's voice came abruptly,

and Moran noted a subtle sarcasm in it.

Before Moran could reply, a warm, feminine voice sounded from behind them. It was Gene Phillips, Correspondent for Inter-World Press.

"I think it's positively thrilling, Blake," the girl said, the excitement in her voice matching that in Dan Moran's eyes.

Moran turned to her and smiled.

"You're right, Gene, it is a sight to witness. You're looking at a city that may well be thousands of years old."

Fenton laughed. "If what I'm looking at is any evidence of culture, then Mars certainly doesn't have much to offer."

The girl turned surprised eyes on Fenton. "But how can you say that, Blake? After all, you can't expect other worlds to be as highly advanced scientifically as earth! If they were, then the Martians would be visiting us instead of us visiting them!"

Moran cast a nod of approval at the girl, his eyes taking in her slim figure, caressing for a moment the soft wealth of auburn hair, and the deep blue pools of her eyes. There was much about Gene Phillips that stirred hidden emotions in Dan Moran, emotions that he had always told himself he had no right to possess. His life had been dedicated to the service of the newly formed Space Patrol. He had been a member of it ever since his twenty-first birthday. That had been ten years ago. Ten years that had seen the science of earth conquer space in a first trip to the Moon, and after that, an establishment of steady commerce between the home planet and its satellite.

There had been little time for the normal pleasures of other men, he knew. But he had never been sorry. He had been a member of a young and growing profession. He had risen rapidly. And today he was Commander of the first

great space cruiser, a ship that had been built for a particular purpose, a purpose he was now ready to carry out.

But as he looked at the girl now and nodded his approval for her defense of the Martian civilization, he felt again that hidden stir of emotion within him. He wondered if his life were really complete, tied up in his work, with little time for the things that a girl like Gene could offer him.

"You're right, Gene, I'm afraid Fenton is forgetting that our two civilizations have developed along radically dissimilar lines."

Fenton fixed his narrowed eyes on Moran then.

"That part I'll admit is true. However, I'm still waiting to see those great apes of yours."

MORAN turned back to his study of the visiplat. He saw the ancient Martian city looming quite close now, as the giant space cruiser glided high in the thin atmosphere of the planet.

And it brought the same thrill to him that it had brought nearly a year ago when he first sighted it in the initial scouting trip of the red planet. As he looked, he heard Fenton's voice speaking again.

"You must admit there isn't much to it. Just a mass of great square stone buildings. Not a far cry from the middle ages on Earth."

Fenton's words brought a feeling of anger to Moran. He turned to him.

"This is something of a different way of talking for you, isn't it, Fenton? If I remember, it was you who talked the Council into constructing this ship for this mission. If it was only for political reasons, then why did you bother to come along?"

Once he had said the words, Moran was sorry that he had. There was nothing to be gained by arguing with Fen-

ton. The man had achieved his present position aboard the cruiser with a mixture of political and scientific pull.

"Aren't you forgetting something this time, Moran?" Blake Fenton's voice was polite, but pointed. "The brain-thera-ray is my invention. How else would you expect to control one of these giant apes? Or possibly you might have some personal reason for not wanting me here."

Moran shot a quick glance at the man. "Exactly what do you mean?"

Fenton shrugged and let his gaze flick toward the girl. There was meaning in that shift of glance, and Moran colored as he caught its import.

There was a tense silence for a moment, and then Gene Phillips laughed.

"I must say, this is a fine time for petty arguments! But really, Blake, while I feel complimented that you insinuate my presence is anything more than professional, I can assure you you're wrong. Isn't that true, Commander?"

Moran felt his color heighten and he turned away from the probing gaze of the girl. She was right, of course. He had never made his inner feelings known in any way, but Fenton, shrewd as he was, had recognized a potential rival in the figure of Moran. And he had chosen this psychological moment to make the fact known.

Moran felt a sigh of relief sweep through him as the girl changed the subject.

"I'm dying to see one of these creatures of Mars. But the city looks deserted! Are you certain this is the place you first discovered them?"

Moran nodded. "Yes. But don't let the fact that the city looks deserted, mislead you. I had a chance to study the habits of the apes on my first trip, and I discovered that they live mostly underground. The buildings you see are

only the external portions of their dwellings. You'll be seeing one of them soon. Their senses are very acute, and they'll know of our presence soon if they don't already."

"Will we capture the first one we see?" the girl asked.

Moran shrugged. "That part is up to Fenton, here."

And as he said it he thought back to nearly a year ago, when he had first met Gene Phillips. It had been before a meeting of the Council on Earth, when he had been summoned to give another full account of his exploration trip. He had wondered at the time why it had been necessary to rehash something that was already well known. But then he had seen Blake Fenton also for the first time. And he had been introduced to the man, a prominent politician with, oddly enough, a scientific background.

Fenton had spoken smoothly before the Council, suggesting that a great cruiser be constructed for another trip to Mars. And that its mission be to secure a specimen of the giant apes to be brought back to Earth for study.

MORAN remembered how he had casually mentioned that it might prove somewhat difficult to persuade one of the huge creatures to cooperate for such an endeavor. And then Fenton had spoken smoothly once more, playing his trump card before the Council, explaining that he had recently completed an experiment, out of which had come a device he called the brain-thera-ray. It was a machine that Fenton claimed could control the thought patterns of any living thing in its grip.

And Moran remembered how Fenton had held a demonstration before the Council, first with a member of the Council itself, putting a metal cap on the head of the man and adjusting controls on a machine he had brought into

the chamber where they were meeting.

Under Fenton's direction then, the Councilman had seemingly lost his will power and had followed every command Fenton had given him.

The Council had been impressed with Fenton's machine, and when Morgan had argued that while it might work on humans, what guarantee did they have that it would work on animals—Fenton had proven he was prepared for such an eventuality.

There had followed a scene that was unparalleled in the history of the Council. Into the great chamber Fenton brought a number of caged wild beasts, ranging from lions, tigers, and gorillas, to an elephant that had been led in by an attendant.

Each of the creatures had been subjected to the thought machine, and each of them, under the prompting of Fenton at the controls, had become a docile creature, responding to any command he gave it.

And after that there had been applause from the Council, and, Moran remembered, from Gene Phillips herself, who had witnessed the scene.

It had been decided then that a great space cruiser would be built, with Dan Moran in command, to be sent to Mars for the one express purpose of subduing and bringing back to Earth one of the great apes that made up the Martian civilization.

Now, as he looked into the visiplat and watched for the first sign of one of the great white apes, he wondered to himself why he had even objected at all to the proposed plan. It had certainly seemed logical to everyone on Earth that a study of one of the creatures of another planet might be of invaluable help to our own culture and science.

And yet, somehow, Moran knew that he did not like the idea. It was nothing he could actually put his finger on, noth-

ing that he could have said in violent protest to the Council, but it was there, just the same.

He remembered when he had first come in close proximity with one of the great white apes on his first trip to Mars. He had flown his tiny scout ship close over the great stone city. He had seen the apes peering up at him in apparent curiosity, but with no apparent concern.

And now, as he looked again at that city, he felt that possibly the answer lay in that fact itself. The apes had *not* shown any concern. And that fact troubled him subconsciously. For it did not seem reasonable that creatures on an alien world would look at the first vestige of man in his roaring ships of space and show no interest whatever. He had tried to answer this feeling by assuring himself that the creatures did not possess enough intelligence to evince more than idle curiosity. But he could not accept this when he considered that the city itself was evidence of intelligence, no matter how crude.

He remembered how Gene Phillips had come up to him afterwards and laughingly asked, "Don't tell me you're afraid of these creatures, Commander Moran! I can't really believe that."

And he had smiled at her in return. "It isn't that, Miss Phillips, it's probably the soldier in me, always seeing danger, or at least looking out for it."

And she had nodded in reply and said that she would like to hear more about the Martians and couldn't they have dinner sometime. And it had started like that. With Gene making the first overture. And it had gone on for nearly a year now, while he fought with the new emotion inside him, and watched as Blake Fenton attached himself firmly in the girl's friendship, with an evident eye toward winning her entirely for himself.

THE thought rankled, now that Gene had made such a positive reassurance just a few moments before, that their relationship was nothing but a professional interest. But he also remembered that she had asked a question, leaving it up to him to answer, and he had failed to do so.

"Look! Dan! Over there—coming out of that building on the edge of the city!"

Moran's thoughts broke off abruptly as the girl's voice sounded excitedly in his ear. He could feel her slim figure touch his and sense the warmth of her nearness as she gazed over his shoulder into the visiplat.

He followed the girl's pointing finger and saw it then.

A great white ape, by Earth standard over fifty feet tall, had lumhered its immense hulk from the cavernous opening of one of the buildings and was standing on its haunches, staring up at them with great, curious eyes.

"It's unbelievable!" the girl uttered, her voice touched with awe.

And Moran turned to Fenton with a trace of irony in his voice.

"Are you satisfied now, Blake? There's one of my Martian pets looking up at you right now."

Fenton's eyes were glued to the visiplat, and there was a tense hawkishness about his features. He was staring more intently at the great ape than seemed necessary.

"That's him—that's the one we'll take! What a specimen he is!"

Moran frowned at the almost triumphant note in Fenton's voice, but then he caught some of the excitement of the moment as the girl's fingers touched his hand.

"Look at him, Dan! Won't he be a sensation when we get him back to Earth?"

Moran nodded slowly and turned to

Fenton who was still watching the ape.

"All right, Blake, it's your show from here on in. You'll get a real chance to show what you thought your machine can do, now."

Fenton's eyes were confident as he turned to them. "You'll see. Watch!"

He moved away then from Moran and the girl and fixed his attention on the controls of the brain-thera-ray that had been installed as part of the cruiser's equipment.

Moran watched as Fenton's fingers flicked swiftly and expertly over the controls of the machine, and a hum of power swept through the control room as the machine came to life.

Moran guided the huge ship directly over the edge of the city to the spot where the great white ape stared up at them in seeming unconcern.

Then he saw the long nozzle of the transmitter in the prow of the ship curve downward under Fenton's guiding fingers, and then there was a static discharge of electricity from the end of the nozzle.

Almost at once the ape on the ground beneath them jumped spasmodically as the force of the ray hit his giant body. Then the creature assumed again its pose of idle curiosity.

"What's the matter, Blake, doesn't the ray have any effect on it?" Gene Phillips asked anxiously.

Fenton smiled. "He's completely under my power right now. Watch."

Fenton spoke into a microphone-like segment of the controls before him.

"Walk out on the plain, away from the city."

Moran heard Fenton's measured words. Heard them uttered slowly, deliberately, the same way he had heard Fenton command the beasts in the demonstration on Earth.

And then his eyes fastened on the visiplat and the figure of the great

white ape. For the huge beast had suddenly moved. Its great body was lumbering slowly away from the hulding and out upon the rocky plain beyond the edge of the city.

"Look! Dan—the ape is following Blake's command!"

Moran heard the girl speak excitedly beside him and he nodded. But what he saw failed to bring a feeling of triumph to him. He realized in that moment that he had subconsciously been hoping that somehow Fenton's machine would fail to have any effect on the Martian. It was not a feeling of jealousy, he knew. It was something else. Something he felt deep inside him but could not define.

Again Fenton's voice gave a slow command through the thought control apparatus.

"Sit on the ground and wait. You feel no fear. You are glad we are here. You want to come along with us in this ship. We are your friends."

WORD by word, the thought was transmitted to the great white ape beneath them. And as Moran watched, feeling a grim fascination at the way the huge beast responded to Fenton's words, he saw the ape suddenly sit on the rocky ground and stare up at the ship, a complacent expression in its enormous eyes.

Fenton turned away suddenly from the machine and stared at Moran.

"You can land the ship now. And then the tricky part comes. Someone will have to go out there and put the theracap on the creature's head."

Moran felt his lips tighten at the way Fenton said that. For he knew very well that it would be his job to do it. To refuse, or to send other members of the crew out there alone to face the huge animal, would have been to admit cowardice. To admit what Moran felt

was what Fenton would like to have him do in the presence of the girl.

"I'll take a few of the men and see to it," he replied briefly and turned to his controls.

In a few moments he had maneuvered the space cruiser to a position close by the quietly waiting ape. Then he set the great space vessel down slowly on the surface of Mars.

There was a slight scraping of sound as the huge ship touched the ground beneath it, then it rested motionless and Moran turned away from the controls. As he did so he saw a look of concern in Gene Phillips' eyes.

"Dan, be careful. . . ."

A momentary smile crossed Moran's face as the girl spoke. Then he heard Fenton laugh shortly.

"He has nothing to be afraid of. A child could carry out his part of the mission, as long as the ape is under thought control. I'll see that nothing happens to him."

Moran felt a touch of anger at the sarcasm in Fenton's voice. "You don't have to worry about me, Blake. I can take care of myself."

Then he turned and strode into the companionway connecting the control room with the operations room.

He gave swift orders to other members of the crew, and then felt someone touch his arm from behind. He turned and saw the girl standing beside him.

"Isn't it dangerous, Dan—I mean the atmosphere. . . ."

Moran shook his head. "The air on Mars is thin, Gene, but the oxygen content is sufficient to sustain life. We've already checked that. This shouldn't take long. Then we'll be on our way back to Earth."

He saw the troubled look that was in the girl's eyes and felt a deep satisfaction in what was reflected in them. Even

though the ape was under Fenton's personal control she still felt concern.

"You go back in the control room with Blake. You can watch from the visiplat."

He saw the girl nod her head and then turn back down the companion-way. Then he turned to the waiting crewmen. He could see a look of tenseness on their faces and uncertainty.

He pointed to five of the men. "You men will be in charge of the hydraulic extension. Follow my hand signals closely and release the thera-cap when I give the signal."

He saw the crewmen nod and then he turned to the airlock.

It hissed open a moment later and then he walked calmly through it and down the short flight of metal steps to the surface of Mars.

A cold wind met him, whipping around his face as his feet touched the ground. His lungs drew in the rarefied atmosphere, and while he knew it was enough to satisfy the demands of his body for the moment, he also became aware that it would not be wise to remain outside for too great a time.

And then his eyes fell on the white ape ahead of him.

SEEING the giant beast for the first time at such a close range, and with his naked eye, brought a strange feeling to Moran. He felt pitifully small beside the gargantuan figure, and ill at ease. While he knew it was powerless to harm him, he also knew that one single sweep of either of those mighty paw-like hands would crush his body to a pulp.

He turned for a moment to watch the side of the great space cruiser open up like a giant clam, revealing the huge, specially prepared interior that had been constructed to house the specimen ape on its return trip to Earth.

And he saw the crewmen already operating the hydraulic extension mechanism, long, jointed claws of metal that held the huge thera-cap that would be placed on the head of the ape.

He was walking across the ground then, straight toward the ape.

As he reached the huge creature he became aware of the sound of its tremendous breathing. It was like a rushing sound of angry winds, and he saw the giant breast of the ape heaving as it sucked in the rarified atmosphere in great gulping movements.

He stopped suddenly as the beast moved. At what was obviously a command from Fenton at the thought controls, the ape leaned over on its back and lay on the ground.

Behind him, he heard the extension mechanism go into operation and he saw the metal claws reaching out from the side of the ship, the thera-cap held on a level with the ape's head.

Moran moved swiftly to a position beside the great creature's head as the thera-cap loomed above him.

He gave swift hand signals and watched as the metal headpiece slowly descended upon the head of the ape. A humming sound came from the thera-cap, and electrical charges crackled on the twin magnetic poles sticking up on top.

Then the cap fell into position on the head of the ape, and Moran knew that his job was finished.

He watched as the hydraulic extension was retracted back into the ship, and then, as he started to turn away from the giant ape, he caught the creature's eyes fastened on his.

An eerie sensation passed through Moran as he gazed into those deep black orbs. For while there was a complacency in them, there was still something else, too. Something that spoke of hidden thoughts, or brutal instincts.

And he felt in that moment a chill. For it suddenly became apparent to him that only Fenton's thoughts at the controls of the thera-ray prevented this giant beast from killing him like a fly.

And even as the thought ran through his mind he heard the hum of the thera-cap suddenly vanish.

For the first time since he had stepped from the security of the space ship, Moran felt panic touch him. And along with it, the realization that Fenton might have planned it this way. With the thought control off, there was nothing to prevent the ape from its natural movements.

And the power was off.

Moran's eyes were held by the gaze of the giant ape. Those huge black orbs seemed to flicker as control of its mind was restored to it. And even as he watched, one of the paw-like hands started to reach out for him.

It was a slow movement. Slow enough to give Moran warning. He jumped away from the side of the beast and ran desperately for the airlock of the space ship.

Behind him he heard a roar of sound that emanated from the great ape's throat. But even as he ran, the thought struck him that it was not a roar of rage, but more like a mocking laughter.

And then he had reached the airlock.

He turned, in time to see the thera-cap crackling with power again, and the huge beast, under Fenton's thought direction, getting to its feet to lumber toward the open section of the ship waiting to receive it.

THEN Moran watched the airlock close behind him and he strode toward the control room, a grinness lining his mouth.

"Dan! Thank God you're safe!"

Gene Phillips ran forward to meet him as he entered the control room. He

nodded to her and then turned to Blake Fenton.

"I suppose there's a reason why the power failed at that precise moment, Blake?" he said angrily.

Fenton had contriteness in his eyes as he shrugged.

"I'm sorry, Dan. But it was something I couldn't help—a loose connection as I switched the controls over to the thera-cap. I fixed it just in time. . . ."

Moran stared at his rival for a long moment. When he spoke again he couldn't keep the sarcasm out of his voice.

"It could have been a fatal accident, Fenton, and a convenient one."

He heard the girl gasp. "Dan! You can't mean that—why I was here when it happened! What a horrible thought!"

As he saw the shocked look in the girl's eyes, Dan Moran knew that he had said the wrong thing.

"I'm sorry, Gene, guess I was a little edgy. It was a rather uncomfortable moment."

He saw the accusing look leave her eyes then, and she nodded understandingly.

"Of course, Dan. I'm sure Blake understands too."

But he refused to look back at Fenton. Instead he turned to the controls of the ship and issued swift orders through the inter-radio set.

And then his fingers moved swiftly across the controls and he felt the great door in the side of the ship slide shut.

And then the ship lurched in sudden movement, and as Dan Moran stared into the visiplat, watching the planet's surface recede beneath them, his mind was a whirling echo of thought.

For he knew in that moment that it could have been an accident. That the connection might have been loose, just as Fenton had said. But he also knew that it might not have been. That it

might have been deliberate. That it might have been meant to happen just at that moment, to allow the great ape to loose its animal passion and crush the life from his body.

It might have happened that way. And it would have removed him from Fenton's path. And out of Gene Phillips' life.

And as he thought, he remembered how the ape had looked at him in that moment. How the deep mockery had been evident in those brute eyes. And how sluggishly the giant creature had moved, when it would have taken but a single lightning movement to end his life.

But it hadn't happened. The controls had been off and the ape had not killed him.

And he asked himself the question why? And he wondered again about Blake Fenton. And the accident. . . .

His fingers tightened grimly to the controls of the space cruiser as it shot swiftly away from the ape city below them.

And even as the ship gathered speed, Moran saw the city beneath him come to life as other giant apes suddenly appeared.

He heard the girl comment on the sight of the apes and he heard Fenton reply. And he wondered to himself that it was indeed strange that the apes had waited until the ship left. Why then had one appeared?

He drove the thoughts from his mind and set the automatic controls that would send the great cruiser on its path back to Earth.

"WHAT's the matter, Dan? You seem sort of restless. Is there something bothering you?"

Dan Moran felt the girl's nearness as her voice came lowly beside him. For a moment the monotony of the Council

meeting left him as he turned to Gene Phillips.

"Why do you ask that, Gene?"

The girl shrugged. "Maybe it's just a hunch. But I've been watching you ever since we got back to Earth—for the full two weeks as a matter of fact. You've been getting more restless every day."

He nodded slowly and when he spoke his voice held a note of weariness.

"I'm afraid you're right. Frankly, this whole thing's getting a bit out of hand. What started out to be something of an adventurous interlude is turning into an event of national importance. The Council has done nothing for the past two weeks but investigate the white Martian ape. One meeting would have been enough for all that."

The girl's face held a surprised look. "Can you really be serious? Why, this is the biggest thing that's ever happened! Think of it! A being from another world—here on Earth! And look at what we've already learned about the Martian culture and background from the ape's mind."

Moran sighed. "Yes, I know. And maybe that's one thing that bothers me."

"Bothers you? What's that?"

"Maybe I'm just a sentimental fool, but I don't think it's fair to treat a member of an alien race like this. After all, what if the tables were turned, and it was one of us who were captured by beings on another planet. How would we feel about being made a specimen against our will?"

Gene Phillips laughed softly. "So that's it! Well, maybe you've got a point there, but on the other hand, don't forget that there's a question of intelligence involved. Since our civilization is on a much higher level; then it becomes our right to assume the role of

being the master—"

Moran shot a studied look at the girl. "That's another word I don't particularly care for. And while we're on the subject of changes in people, what about yourself? Haven't you gone a little off the deep end on this Martian ape business?"

The girl looked at him for a moment before replying.

"Aren't you forgetting that I've got a job to do? The Martian ape is the biggest news in telecast today." She paused, then let a half smile cross her face. "Or is it something else you mean?"

He frowned. "What else would I mean?"

"Oh, maybe Blake Fenton. . . . You don't like Blake, do you?"

Moran slowly digested what the girl had implied. And he felt himself color as her meaning became clear to him. Blake Fenton was the man who was really pushing the Martian investigation before the Council. And Fenton was the man who was in the limelight with his thera-ray control of the great beast. She was implying now that his lack of interest in the event might be due to a jealousy of Fenton. And as the thought drove itself home to Moran, he felt a momentary anger wipe away his embarrassment.

"My personal opinions of Fenton have nothing to do with my attitude," he said a trifle sharply. "But I don't mind admitting that I'll be glad when this circus is over with and I can get back to the Patrol."

"Meaning you don't care to see Blake anymore?"

"That's about it."

". . . And I suppose I'm included in that too. . . ."

The anger left Moran's voice then. "I didn't say that, Gene, as a matter of fact, I—"

His voice broke off as he heard the insistent pounding of the gavel from the Chairman's table.

"The Council will come to order!"

MORAN saw the girl switch her gaze away from him, and he knew that his moment had been lost. And as he turned his eyes toward the center of the huge Council chamber, he felt a bitterness inside him. It was always that way. Just when he felt he might be able to say what was innermost inside him, something always happened to prevent it. But then his attention was drawn by the Chairman's voice.

"The Council recognizes Blake Fenton with his proposal."

Moran saw the tall figure of Blake Fenton rise from a table before the council platform. There was a satisfied smile on the man's face as he bowed to the council members and then to the gathered audience. Moran saw Fenton's eyes afix themselves to those of the girl for a single instant, and out of the corner of his eyes he saw the girl smile encouragingly at Fenton.

Then Fenton turned back to the council and his voice came clearly.

"Gentlemen. My proposal is simple. I think we all agree that the scientific aspects of the Martian ape are important. But there is another matter pertaining to this event that is equally important. And that, gentlemen, is the fact that people all over the country are clamoring to see this being from another planet. And it seems to me that we owe it to our people to let them have a chance to see for themselves what the Martian is like—and how completely in our power the thera-ray has made him."

Fenton paused to let his words have the proper effect, and Moran had the feeling that Fenton was enjoying his position in the limelight.

"So, gentlemen, I propose that we take the Martian ape on a tour of the country. In advance let me say that there will be no danger involved. I have in mind a specially constructed vehicle which will house the necessary equipment for the thera-ray. This vehicle will accompany the Martian, maintaining complete thought control at all times."

Moran's voice ended and he stood waiting. The members of the council glanced slowly at one another, and as Moran watched, he saw them nod toward the chairman.

Then the chairman's voice replied.

"The council believes your suggestion is in order. And authorization is granted. You will be in complete charge, Fenton. And any assistance you may require will be made available to you."

Blake Fenton bowed his head in a gesture of acceptance. Then he spoke again to the chairman.

"I do have one request to make at this time. I would like to have Commander Dan Moran assigned for special duty with me on this project. I realize that the Commander's work with the patrol is quite important, but since it was he who first discovered the Martian civilization, and his efforts aided me greatly during our recent trip to Mars, I would like to have him work with me now."

As Fenton's voice ended abruptly, Dan Moran was aware that his mouth had dropped open in sheer astonishment. For a moment he couldn't be certain that he had heard correctly. But then, as he heard the Chairman bang his gavel and call to the clerk, "Have Commander Moran step forward," he knew that he had not been mistaken.

The clerk had already turned toward the audience and Moran felt the clerk's eyes on him as the man's voice ordered, "Commander Moran, will you please

step up before the Council."

And as Moran sat almost stunned in his seat, he heard the girl beside him whisper: "Isn't that wonderful, Dan? Now what do you think of Blake!"

But Moran didn't have time to answer her. He had risen to his feet and slowly made his way up the aisle until he stood close beside Blake Fenton and the Council Chairman.

AS HIS eyes met those of Fenton, Moran felt a sudden anger rise inside him. For he read in Fenton's eyes a mockery, as if the man had known that what he had suggested would be distasteful to Moran.

Then Dan's gaze switched to the Council Chairman and he bowed his head in an acknowledgment of respect.

The Chairman cleared his throat.

"Commander Moran, it has been suggested by Mr. Fenton that you be put on special assignment with him. The Council is inclined to agree—"

"If it please the Council, sir," Moran interrupted hastily before the Chairman could finish, "I would like to say that I am highly honored with the suggestion, but I would like to decline."

The Chairman's eyes, for a moment showing a trace of anger at the way Moran had interrupted him, now showed astonishment.

"You say that you would like to decline, Commander? I'm sure I do not understand your reasons. . . ."

"It's very simple, sir," Moran replied. "I'm a soldier and my duty is with the Patrol. And I would like to add that I feel my qualifications are somewhat overrated for the type of work Mr. Fenton had in mind."

The Chairman studied Moran in silence for a moment. And Dan, watching the man's face, knew that the Chairman was about to accept his refusal.

But then Fenton spoke beside Dan,

his voice smooth and polished.

"If I may, sir, I would like to say that we all know how very important the Commander's position is with the Patrol, but I am sure that his services will be much more valuable in this present circumstance. I request again that the Council assign Commander Moran to the Martian project."

Dan felt his anger rise again, but he knew that any further arguments on his part would be taken as insubordination. He remained silent as the Chairman pondered the situation a moment. Finally:

"The Council concurs with Mr. Fenton. Commander Moran, you are hereby assigned to coordinate your efforts with Mr. Fenton."

The Chairman's voice ended abruptly then, and Dan slowly nodded his acceptance of the order.

He saluted before the Council and turned abruptly on his heel and strode past Blake Fenton. There was a look of satisfaction on Fenton's face that Moran did not miss.

He strode swiftly up the aisle then, past the girl and outside the doors of the Council room.

"Dan! Wait a minute!"

Moran paused, and turned to see Gene Phillips hurrying up to him. There was an irritated frown on the girl's face.

"Dan! Aren't you carrying this thing too far? After the praise Blake gave you before the Council. . . ."

"I think I made my position quite clear before the Council," he said, a touch of anger still in his voice.

"But why? Surely you must realize that this is a big break for you—you'll have your name on every telecast, and—"

"As a keeper to the Martian ape, and Fenton's errand boy," he replied.

The girl looked at him for a long moment and then shook her head. "This

isn't really like you. There must be something else. . . ."

And then Moran saw Blake Fenton approaching them. A smile was on Fenton's face.

"I don't know whether I was more surprised, or the Council, Dan," he said. "If I really thought you had meant what you said. . . ."

"I meant it," Moran retorted. "I don't know what your purpose was in requesting me, but I don't mind telling you that I don't like it."

THE smile left Fenton's face. "That's too bad. But it's too late now. Doing anything further would only cause a lot of unpleasantness for all of us. As it is, we'll be together for awhile again. The three of us."

Moran's eyebrows lifted. "The three of us?"

Gene Phillips laughed. "Of course! You don't think I'd take any other assignment right now! The Martian ape is the hottest copy and the biggest break I've ever had!"

Fenton smiled again. "So you see, Dan, it will be like old times. And don't worry too much about the work. It will all be very simple. I've already had a truck specially built that will house the thera-ray controls. And it will only be a few hours work for you to learn how to handle them."

Moran pursed his lips thoughtfully. "You mean I'm to be in charge of the ape during the tour?"

Fenton nodded. "That's right. It will add a touch of glamor to the whole thing. The man who first discovered the Martians, with the first Martian to visit Earth."

"And just when does this tour begin?" Moran asked resignedly.

"We start at once. We'll cover the West Coast first and then go across country to the East. I've made all the

necessary preparations already."

Fenton finished speaking and then turned to the girl. "And now, Gene, how about having dinner with me. We can arrange the telecast details together."

Moran saw the girl hesitate for a moment as she looked toward him before replying. When he remained silent she said, "Why, all right, Blake. Maybe Dan would like to join us?"

Moran shook his head. "Thanks, but I've got some things to take care of at headquarters. Routine checkout. I'll see you both later."

He watched them as they walked off. And he stood for a long moment, his mind turning over what had occurred. It seemed more like a comedy than anything else. That he, a Commander of the Solar Patrol, should be delegated to the task of playing nursemaid to a Martian ape. It was almost laughable.

And yet he knew he could not laugh. For he had a strange feeling that there was something more to it. It was too pat. Fenton had asked for his services for a reason. It wasn't logical. It should have been the last thing Fenton would have wanted. It would have left him a clear field with Gene Phillips with Moran back on duty with the patrol. But now, Fenton had demanded his assignment. Why? And just what made this tour of the country with the Martian creature so important?

He shook his head slowly, knowing that he did not have the answers. Wondering if he ever would. And then suddenly he brightened. At least Fenton had given him an opportunity to be near Gene Phillips. And suddenly he realized that he wanted to be near the girl.

And then he smiled to himself. Whatever Fenton's game was, he felt confident he could beat him at it.

He strode toward Patrol headquarters at a fast pace.

THE crowds at Seattle had been terrific. People had poured out to the city limits by the thousands to see the strange creature from Mars. To listen as Blake Fenton explained over public address systems that the ape was under complete mental control at all times.

And then the usual questions had been asked about Mars, and Fenton had given the usual answers. And then, Moran had put the ape through the prepared routine that Fenton had worked out.

The huge creature would roar mightily and thrash its great fists against its chest in thunderous sounds. The crowds would look on in an awed fascination at the might of the white ape, and then would applaud after the demonstration was over as the ape sat down calmly on the ground and stared with a stupidly glazed expression at the onlookers.

And so they had traveled down the state of Washington and through Oregon. And everywhere the crowds had been gigantic. And always the same routine, the same awe on the faces of the people, and the applause for Fenton as he wound up each demonstration.

But then Moran had begun to notice a change. It wasn't in the actual routine they went through. The motions were the same. It was in the manner Fenton spoke to the people. There was more aggressiveness in his voice as he spoke of Mars and the creatures inhabiting the planet. And as Moran watched the eyes of the gathered people, he saw their faces fastened on the face of the great ape, and an almost eager tenseness about them.

And he was watching the same thing now on the outskirts of San Francisco. There were thousands of people gathered to see the Martian ape. And Gene Phillips was busy with her telecast equipment in her own vehicle parked close to the thera-ray truck.

Moran watched as Blake Fenton spoke to the crowd over the public address system. And a frown creased his forehead as he listened to Fenton speak.

"There is a new world waiting for us. What you see before you is a product of that world—an ancient culture, developed along different lines than ours. But a culture that lacks our scientific progress. We have a task before us, in adapting this newly opened path for our own advancement. It is the moment Earth has long been waiting for. It is the moment Mars has been waiting for—for us!"

And as Fenton's voice trailed off, Moran felt a chill sweep through him. For as he looked at Fenton, saw the enthusiasm that was sweeping the man, he heard the crowd begin to cheer tumultuously. The fire that had been in Fenton's voice had been caught by the crowd, caught and fanned into lusty voicing of their approval.

And yet, Moran was not sure just what they were cheering. He wondered suddenly if the crowd knew itself. For Fenton's words had been a mastery of double-talk. Meaning without meaning.

And then Dan turned his head away from Fenton and his eyes fastened on the mighty figure of the ape. The huge beast was staring straight at him, its semi-dazed eyes for a moment watchful.

And the chill that he had felt at Fenton's words returned to Dan Moran in that moment. It was something he could not explain. But somehow, as he looked into the ape's watching eyes, he felt that there was something there. An invisible bond that was just beyond his comprehension.

And then he heard Fenton speaking to him.

"Snap out of it, Dan! The people are waiting for an exhibition of the

thera-ray! Let's get to work."

The mood passed momentarily then, and Moran went through his motions with the thera-ray controls. And as usual, the ape responded to his every voiced thought suggestion.

And then finally the show was finished and again came the loud applause from the gathered crowd.

And then he watched as uniformed police began to disperse the meeting.

"HELLO, boys, did you put our Martian friend to bed properly?"

Gene Phillips smiled from her seat at the restaurant table as Moran and Fenton walked up and sat down.

"Everything's taken care of," Dan replied. And as he said it he smiled slowly, for what the girl had asked had been literally true. In every town they had visited it had naturally been impossible to provide adequate quarters for the huge Martian beast. And it had been necessary to keep the ape on the edge of each city, with the ground as his bed. Before leaving the ape alone a thought suggestion had always been given, commanding the huge creature to sleep, and as always, the beast obeyed the thought suggestion.

"Don't you fellows get tired sleeping out in the open like that?" the girl asked as they gave their order to the waitress.

Fenton looked over at Dan and shrugged. "I don't mind, and I'm sure the Commander has done it before."

Dan nodded. "It just gets a little monotonous. I've been meaning to pick up a radio for a little relaxation, but I've never gotten around to it."

"Well, I can fix that," the girl answered. "I've got a portable telecast set at my hotel room. After dinner you can walk over and pick it up."

She smiled as she said it, and Dan felt again that strange feeling deep within him. He shot a quick glance

over at Fenton and saw the distant look in his eyes, as if he had not heard what the girl had said.

And he realized suddenly that Fenton had been acting strangely lately. He remembered again the way the man had spoken that afternoon.

"Thanks, Gene, I'll take you up on that," he replied and then turned to Fenton.

"Blake, would you mind explaining just what you were talking about this afternoon?"

Fenton came out of his reverie at Moran's words and passed a curious glance across the table.

"What I said? I can't think of anything that needs explaining."

"You know what I mean," Dan insisted. "That talk about a new path for the advancement of Earth, and that Mars has been waiting for us. The crowd seemed to get what you were driving at, but it missed me by a mile."

For the first time a shadow of a smile crossed Fenton's face. He stared for a moment at Moran and then the smile faded as an eager light entered his eyes.

"So you missed the point, eh, Dan? How about you, Gene, did you understand it?"

Moran switched his gaze over to the girl. And as he looked at her he saw that her eyes were filled with the same light that Fenton's showed.

"Why of course I did, Blake. We've learned everything we need to learn from the Martian about his race, and there's nothing to prevent us from extending the boundaries of Earth!"

It was the way in which the girl said it that struck a chill of astonishment through Dan. It wasn't possible, and yet he had heard her say it with her own lips.

"Are you implying, Gene, that you'd be in favor of a declaration of war between Earth and Mars?"

THERE was shocked surprise in Moran's words as he spoke to the girl. But he saw her look over at Fenton instead of replying. And then Fenton spoke.

"That's exactly what she did say, Dan. And you yourself noticed that the people caught the idea enthusiastically! But, actually, it wouldn't be war. To have war you must first have opposition. . . ."

Dan's eyes stared in a weird fascination at Blake Fenton.

"You can't be serious! You must be joking. . . ."

Fenton laughed then. "Joking? You should know by now that I never joke."

And the way Fenton said it he knew it was true.

"But this is mad! We're on a goodwill tour, a—"

"That reminds me," Fenton interrupted him. "I won't be with you after tonight. I'm returning to Washington at once. You'll continue to Los Angeles as planned. I'll join you again at the San Diego Patrol Base."

"You're leaving for Washington?" Surprise was again in Dan's voice. "But what for?"

Fenton shrugged. "I received orders to return at once for an important meeting with the Council."

Dan frowned. "I didn't know that. When did the orders come through?"

"This afternoon," Fenton replied. "After the demonstration."

Dan remained silent for a moment, thinking. Then he said slowly, "But I was with you all the time. It's funny I didn't hear about it. . . ."

Fenton laughed. "You were probably thinking about something else. Maybe Gene here?"

There was a sarcastic note in Fenton's voice with those last words, and it brought a flush to Moran's face. And it also brought him back to the present.

He heard the girl laugh at Fenton's remark.

"I'm sure Dan doesn't give me a second thought! He's too anxious to get back to the Patrol!"

And Fenton's voice came lowly. "Maybe he will, soon. . . ."

Dan glanced sharply at him. "What was that? Were there any orders for me?"

Fenton shook his head and glanced at his watch. "No. . . . You'll carry on as I've said. We'll meet in San Diego—you'll probably go back on active duty then." He glanced at his watch again and pushed his chair back. "I'm sorry, but I'm catching the evening flight, a special. I'll have to leave you both now."

And as Fenton arose, Dan was still not satisfied with the man's explanation. There was something queer about the whole thing. The manner of the man, the change in him. And even the girl. . . .

He heard Gene Phillips saying goodbye to Fenton and then they were sitting at the table alone.

"What's the matter, Dan? You have hardly touched your food!"

Moran looked slowly over at her. "I'm not hungry, I guess. . . . If you're ready, we can leave. I should get back to the thera-ray truck."

The girl nodded and rose. Moran followed her, paying the bill as they left.

Then they walked slowly down the street toward the girl's hotel.

"You're sure you don't mind my taking the radio set with me?"

Dan held the small portable in his hand and turned toward the door of the girl's room.

"Not at all, Dan. Do you have to go so soon?"

He paused then, and studied the girl's face.

"I should . . . Gene, you weren't serious back there at the restaurant, were you?"

She frowned. "Serious? Why of course I was. Dan, haven't you noticed the trend of the country?"

He stared at her for a long moment, weighing his words. He didn't know just how to say them now. Everything was confused in his mind.

"I'm afraid that that's something I'm guilty of missing completely. But apparently you and Fenton know what it's all about."

There was a momentary puzzlement in the girl's eyes, a dreamy expression that blanked her features for a second.

"I'm not sure, yet, Dan . . . Not yet. . . ."

He had the impression that she was not talking to him, but to herself.

And as he looked at her face, he suddenly forgot about everything else. The feeling inside him welled to his lips.

"Gene, I—"

His voice stammered off into silence then as he saw that she was not listening to him. She was thinking of something. Something or somebody. And as the thought flashed through his mind, he felt instinctively that she must be thinking of Fenton. And the words that he had been about to utter to her, the moment that he felt sure had belonged to him, was suddenly gone.

"I'll see you tomorrow, Gene. Good night."

And as he opened the door the girl was still standing, the dreamy expression in her eyes.

He closed the door softly behind him and left the hotel.

WHEN he reached the camp, he saw one of the special police officers approach and recognize him.

"Oh, it's you, Commander. . . See you brought a portable radio with you."

Dan nodded. "Is everything all right?"

The officer shrugged. "Guess so. Beats me how that thera-ray machine works, though. I thought it was supposed to put the ape to sleep for the night. I walked by him a little while ago and he was awake."

"Awake?" Moran frowned and passed by the officer. He hurried through the remaining distance to the thera-ray truck. And as he approached, he could see through the dim night light, the huge prone figure of the Martian ape on the other side of the truck.

He put the radio set down beside his sleeping bag and crossed around the truck. He stood there, a few feet away from the gigantic ape, watching it closely.

The huge breast of the creature rose and fell in methodical movements, and its eyes were closed in what appeared to be a deep slumber. He frowned again to himself. Of course, the officer might have been wrong. . . .

Slowly he crossed back to his sleeping bag and sat beside it, feeling the warm night air blowing gently around him. He lit a cigarette and blew a long thoughtful streamer of smoke into the star-lit heavens. And as he gazed at those stars he felt a pang of yearning. For he knew that that was where he belonged. Up there, away from the turmoil and confusion of the Earth's surface. Up there where he could think out the questions that raged in his mind.

He sighed and reached over to flick on the radio set. And as his fingers turned the switch he glanced over at the Martian ape.

He saw a pair of watchful eyes gleaming at him through the dim light.

A startled feeling swept through Dan as he returned the gaze of the awakened ape. And a question pounded through his mind. *How could the ape be con-*

scious? He was under the full control of the thera-ray!

His eyes tore away from those of the ape and centered on the thera-ray truck. He could see the twin towers of the thought control mechanism glowing in the darkness, sending out the stream of energy that controlled the metal cap on the head of the ape. The ray was working, just as it should have been, and yet . . .

His eyes swept back to the figure of the ape. He saw the eyes of the giant creature staring at him, and though he couldn't be sure, he felt that those eyes held a laughter in them. And something else . . .

And then suddenly the radio began to play. A soft pleasant stream of music welled from the set as Dan stared at the awakened ape.

He was about to get up and go over to the thera-ray controls and repeat the command he had given the ape earlier, when suddenly he noticed something that seemed to be happening to the great beast.

The music spread outward from the radio, adding a weird touch to what Dan was witnessing. For he saw the figure of the ape suddenly shudder and a low rumbling sound issue from the beast's throat. And then the eyes that were staring at Dan suddenly took on a glazed look that he could see even in the dim light.

And as he watched, he saw those eyes roll upward, showing the whites of them, and then the lids slowly closed and the great figure relaxed.

Dan got to his feet slowly, surprise blanking his face. This was something he had never seen before. And consternation swept through him. It was almost as if the huge creature had been hypnotized . . .

And as the thought sped through his mind he turned to the radio.

THE music was pouring out from the set, a steady stream of sound, caressing the night air about him. And then he gazed back at the figure of the ape. And it suddenly came to him. As impossible as it sounded—he was right! The ape *had* been hypnotized! It had happened the moment the music poured forth from the set. The giant creature had shuddered and its eyes had glazed and rolled in their sockets . . .

He stared at the Martian as the fact confirmed itself upon his mind. And as he thought back rapidly, he knew that this was the first time the ape had heard music. There had never been an occasion before for the ape to be subjected to music of any kind. And now, the first time the ape had heard the soft sounds, he had reacted violently, his huge body completely under a strange hypnotic spell.

Dan sat down beside the radio feeling a great excitement pour through him. He reached out slowly with one hand and turned the dial of the radio.

The music cut off abruptly as he tuned in another station and heard the voice of a newscaster.

But his eyes were on the great figure of the ape. As the music vanished, he saw the giant figure breathe in a tumultuous movement, and the great eyes slowly opened. They fastened on Moran and as Dan watched, he saw a look of puzzlement in them.

Quickly he got to his feet and strode over to the thera-ray controls. He adjusted them to their maximum output and gave the oral command he had given earlier.

"Sleep . . . you are tired . . . sleep . . ."

And as his thoughts were transmitted through the mechanism to the thera-cap on the ape's head, he saw the eyes of the Martian watching him intently. And just before they closed in slumber at

his mental command, he thought he saw again that look of laughter in them.

Then he returned to his sleeping bag and sat beside the radio. The voice of the newscaster caught him suddenly.

" . . . and the Council has announced that the recent project has been completed. Kept in the utmost secrecy until this moment, it can now be revealed that the great space fleet has been constructed and is ready for instant military use at the San Diego Patrol Base. The ships are the largest ever conceived by Patrol engineers. And work has been at top speed. An important meeting is scheduled for early tomorrow at Council headquarters in Washington. What will come out of that meeting will be news that will electrify the world. . . . And that concludes . . ."

The voice of the newscaster droned on in a monotone, completing the broadcast. But Dan Moran was no longer listening. He reached out and flicked off the set, hardly aware that he had done so.

. . . A great space fleet . . . completed at top speed . . . instant military use . . .

THE words flashed through his mind again and he thought about them in a shocked silence. What did it mean? What could possibly be the plans of the Council that they had constructed a huge space fleet in utter secrecy and at top speed?

And then he remembered the last part of the announcement . . . an important meeting scheduled for early tomorrow at Council headquarters in Washington. . . .

And a frown creased his forehead at that thought. For he remembered what Blake Fenton had said about receiving a special order to return to Washington at once. It could mean only one thing. Somehow, Fenton was tied in with the

special meeting that was to take place in the morning. Called back by orders, Fenton had said. And yet Dan knew that it was impossible for Fenton to have received any orders without him knowing about them. But how then?

And as he thought about it, he suddenly became sure of one thing. Whatever those plans were that involved the Council meeting and Blake Fenton, they also involved the space fleet that had been built at the San Diego Patrol Base. And if they involved Fenton, then they must also involve the present assignment and the Martian. . . .

And as Dan looked over at the huge still figure of the Martian, he felt again that chill of unknown dread sweep through him. He thought of Gene Phillips and the peculiar way she had been acting, at the dreamy look on her face, and the way she had talked. . . .

It was a jumbled picture in his mind. A puzzle where the pieces were all mixed up. They were there, he knew. But he couldn't fit them into their proper place. And somehow, he also knew, he had to complete that picture. There was an urgency about it that frightened him. He knew he would not rest until he had the answer.

He gazed up into the star-lit sky and found the planet Mars, a twinkling dot up there in the heavens. A peaceful looking dot of light, so far away. What possible bearing did it have on the puzzle in his mind?

He wasn't sure, but as he stared at the twinkling planet, he began to see a little more clearly. And as he saw, a horror of suspicion gripped him. A suspicion that he knew he must make certain of. Only then would he be sure.

And Mars continued to twinkle in the heavens.

DAN looked over the heads of the great gathered crowd that had

swept out of Los Angeles to see the Martian ape.

In the telecast truck beside him, Gene Phillips was issuing orders to the crew operating the television apparatus. As she felt Dan's eyes on hers, she turned to him.

"This is going to be the big day, Dan," she said, her features tense with an expectant light.

He looked at her and slowly nodded. She didn't know what he was thinking, he knew. But she was right. It was going to be a big day. For today he would know. . . .

And then he heard the voice of the special narrator that had met them in Los Angeles. The man who had been sent to take over Blake Fenton's task of explaining the Martian to the gathered people.

And as the man talked, Moran looked at the faces of the thousands of people kept behind orderly police lines. They were all fastened on the huge figure of the ape standing behind the theta-ray truck, standing quietly, its huge eyes impassive as it returned the stare of the audience.

And the narrator's voice picked up a note of enthusiasm.

"And what you see before you, this creature of another planet, is only the beginning. Soon we will extend the frontier of Earth further than we have ever dreamed! Mars awaits us! Its people need the guiding hand of Earth. . . ."

And the voice of the narrator swept onward, building to a climax of enthusiasm.

And as Moran watched, he saw the faces of the crowd take up that enthusiasm and follow it with a thunderous burst of applause. And as Dan watched, he had the feeling that these could not possibly be the people of Earth he was watching. These could

not possibly he the words of the government he knew, the Patrol he had served and made his life's work. For what was being said was beyond all comprehension. They were words of war, of conquest, of—

And then he received a signal from the narrator. The time had come to show the people the effect of the thought-controlled Martian. And Dan turned to the controls of the thera-ray.

As his fingers stepped up the power of the machine, his eyes caught those of the ape. And again he felt that silent laughter in those dark depths. Then he tore his gaze away and issued his oral commands one by one into the thought transmitter.

And the ape followed the mental suggestions Dan had given it.

And finally he said: "Sit on the ground and face the audience."

And the ape sat down beside a huge boulder of rock. And Dan prepared for the final show of control, the moment of fear that would sweep through the crowd as the ape seemingly went out of control only to be brought back at the psychological moment.

He had done it many times. He had always given the order for a show of rage and the giant ape would thunder its wrath in a mighty bellow of anger. But now, as he prepared to issue the command, his fingers slowly crept to the master switch of the thera-ray controls. And as he started to speak into the transmitter, his hand, in a concealed movement, turned off the machine.

"Pick up the boulder beside you and threaten the crowd with it."

As the words left his lips, Dan's eyes swept up to the face of the ape. He saw the huge creature's gaze fastened dutifully on the crowd beyond. And he saw the hand of the ape slowly reach down beside it and pick up the boulder. And then the ape raised the boulder

over his head and a thundering roar of rage snarled from its throat.

And as Dan watched, his heart seemed to stop beating, for he knew for sure that the ape had responded without the thera-ray control! *He had shut off the machine just before he had given the command!*

HE HEARD the crowd gasp in sudden tense fear as the huge creature seemed to be about to hurl the missile into their crowded ranks.

And then Dan spoke again into the dead transmitter.

"Put the boulder down. Your body is completely relaxed. . . ."

And he watched as the huge beast slowly lowered the rock to the ground and released it. And then the snarl left its face and a complacent look spread over it.

Dan's hand trembled as he reached over and secretly flicked on the power switch again. He heard the thunderous applause of the audience, but it was a dim echo in his mind. For he knew a startling truth now. A truth that had been born a suspicion the night before, a truth that was the final piece in the jumbled picture in his mind.

The ape had reacted without the stimulus of the thera-ray control! And that could only mean one thing. . . .

He blanked the thought from his mind before it could be born. For there was danger now. A danger that sent a chill up his spine. Danger that was more terrible than any weapon man had created. For he knew that the ultimate weapon was being used at that very moment. A weapon that man as yet only dreamed of, but that another race had perfected beyond comprehension. . . .

He forced himself to turn toward the telecast truck then. And as he saw the crowds of people breaking up under the orders of the police, he saw the face of

Gene Phillips staring at him, a dreamy expression on her features, and excitement in her eyes.

"Did you hear it, Dan? Isn't it wonderful? The news is flashing over the tele-wires right now!"

Dan nodded his head slowly, a grimness in his eyes as he looked at the girl.

"Yes, Gene, I suppose it is . . ."

And then the girl's face brightened as she looked at him.

"And you, Dan! Your orders coming through to return to the Patrol Base! Isn't that what you've been waiting for?"

Moran stared at her in a shocked silence for a moment.

"My orders? What orders?"

The girl looked at him queerly. "Why, you know, they came through just a few moments ago. . . ."

There was a sudden confusion on her face as she spoke. As if she did not understand why he had asked the question.

And then, behind the girl, the portable telecast screen suddenly flickered with life and the face of Dan's Commanding Officer, General Talbot, appeared on the screen.

"Commander Moran, return to Base Headquarters at once. You will turn over the Martian to Blake Fenton when you arrive. Then report to me."

Dan stared at the face on the screen and then slowly nodded, knowing his own image was being transmitted back to the Base.

"Yes, sir. I'll return at once."

Then the screen blanked out and the girl laughed. "There, you see? They had to repeat the order for you!"

But Dan Moran did not return her laugh. For he knew that the screen had not transmitted any order to him a few moments before. And yet the girl had known. *The girl had known!*

He turned then to the thera-ray con-

trols and his eyes swept up to find the eyes of the Martian staring down at him. The laughter in those great orbs was not concealed now. It was a taunting laughter that brought a strange fear to Dan. For he knew suddenly that he was being toyed with, as a child plays with a doll. And he could read a challenge there . . . What was he going to do about it? . . . What *could* he do about it? . . .

"I'll take over the thera-ray controls now, Moran," Blake Fenton said crisply as Dan halted the truck near the Patrol Base headquarters. Fenton stepped up beside the cab and spoke the words as Moran climbed down from the vehicle.

"I see you got back from Washington in a hurry," Dan replied, watching the man closely. He saw Fenton's eyes glance at the towering figure of the ape, standing close beside the truck, and then Fenton looked back at him.

"That's right, Moran. But I believe the General is waiting to see you. You'll receive further orders from him."

Dan saw Fenton turn on his heel and walk toward the rear of the truck.

He followed the man briefly with his eyes and then slowly walked toward the Base Headquarters building. As he walked his eyes took in the staggering sight in the distance of a giant fleet of space cruisers. Cruisers that were as large if not larger than the one that he had used to bring the Martian back to Earth. And as he looked at that great fleet, poised for instant flight, he felt again the dread sweep through his body.

Then he had reached the Base building and he returned the salute of a guard as he entered.

Moments later he was being ushered into the office of the Base Commander. And then he stood before General Talbot's desk, saluting.

"Commander Moran reporting as directed, sir."

The General returned the salute and Dan noticed that the man stared at him with a detached look.

"At ease, Moran. You may smoke if you wish."

Dan nodded and relaxed. He lit a cigarette and waited for the General to speak. The officer leaned back in his chair and a slow smile spread across his features.

"You're a very lucky man, Moran. You're about to be given the greatest opportunity of your lifetime." He paused for a moment, to let his words have the proper effect, then he went on.

"The Council has instructed me to put you second-in-command of the task fleet, Moran."

Dan tried to keep his features relaxed. "Task fleet, sir? You mean—"

"I mean, Moran, that Earth is about to invade Mars. Surely you have been aware of the situation?"

The full horror of what the General had just said broke upon him then. And he knew that his worst fears were being realized. For what had been only rumor before, was now officially sealed.

"There was rumor, sir . . ." Dan replied slowly.

"Rumor!" the General scoffed. "This is no time for jokes, Moran. Of course you knew. Every officer in the Patrol knows. Just as every person on Earth knows by now! But enough of that. You don't seem very happy over the high honor the Council has given you."

Dan slowly nodded his head. "Of course I feel honored, sir. . . . But you mentioned I was to be second-in-command? . . ."

The General sat forward in his chair, his eyes still fixed on Dan, and they were still staring with the detached expression he had noted before.

"Yes. Blake Fenton will be in com-

mand of the attacking fleet. You will act under his orders from the control ship. The Martian is being placed in the ship at this moment, in the specially constructed hold."

"Blake Fenton, sir?" Dan asked in surprise, ignoring the latter part of the General's statement.

"That's right, Moran. The Council has appointed Fenton as Commander of the fleet."

"But Fenton's not a Patrol officer, sir! He's not even a soldier!"

The General's glazed eyes continued to stare at him. "He was appointed by the Council, Moran. That's all that is necessary. You will report to Fenton at once. The fleet is scheduled to depart shortly. That is all, Moran."

A protest rose to Dan's lips, but died there. As he looked into the General's face, saw the same dreamy expression there that he had seen on the face of Gene Phillips, he knew it was useless to argue. For the situation was hopelessly beyond control. An impossible situation that was like a wild nightmare. But a nightmare that was slowly becoming a grim reality.

"Yes, sir," Dan replied and saluted. Then he turned on his heel and walked out of the office.

AS DAN walked slowly toward the open port of the giant flagship of the fleet his eyes took in the scene around the gathered armada. It was strangely still. Where there should have been a bustle of excitement, there was nothing. The airlock in the side of the flagship had already been closed, housing the Martian behind it. A single guard saluted as Dan walked up the ramp to the open airlock of the control room.

Then he was inside the huge ship, and as he stepped into the control room, he stared in surprise at the figure of

Gene Phillips, standing beside a portable telecast receiver. The girl was talking to Blake Fenton as he walked up.

"Dan! I'll bet you're surprised to see me! I managed to get the necessary permission to cover the invasion—with Blake's help!

Moran stared for a long moment at the girl.

"This is no place for a woman, Gene . . ."

Fenton laughed. "If you mean there'll be danger, you're wrong, Moran. The Martians won't stand a chance against us!"

And again Dan noticed the feverish light in Fenton's eyes. The way he talked. So sure. So certain. It was idiotic talk, the babble of children playing a game. Only Dan knew that this was not a game.

"I understand I'm to be under your command. Just what are your orders?"

He saw the detached eyes of Fenton stare at him. "You may take over the controls, Moran. The Council Chairman himself will give the order to take-off. All we can do is wait."

Dan walked slowly around the two and stood before the controls of the space cruiser. He knew that this was what he had wanted, to return to active duty with the Patrol. But he also knew that it was not the kind of duty he had hoped for. This was madness. A madness planned by an intellect far greater than anything man had ever dreamed of. . . .

And then suddenly the telecast screen flickered into life. And the face of the Council Chairman came into focus. And there was the same expression on the Council Chairman's face that Dan had seen on the others. A detached, dreamy expression. As if the man's thoughts were far distant.

And then the Chairman spoke.

"The time has arrived. In thirty seconds you will depart from the Earth on your great mission. You take with you the mightiest fleet ever assembled by man! And the hopes of every Earthman along with it!"

And then the Chairman's face faded and was replaced by a sweep second clock. Dan watched as the second hand swept downward, heard the airlock hiss shut from outside the control room. And he knew the moment was at hand.

As the second hand reached its appointed place, Dan shot the controls into position and he felt the mighty cruiser blast away from the Patrol Base.

And as the great ship rose in a streak of flame, its atomic engines blasting the trail toward outer space, he saw the rest of the fleet shoot away from the Home Base in the visiplate.

He reached over and switched on the inter-ship radio.

"Commander Moran speaking. All ships will report."

As the words left his lips he flicked on the telescreen controls. He licked his lips nervously. For he knew that this was to be the moment he dreaded. For he was awaiting an answer from those other ships. An answer that would be the final piece in the horrible picture he envisioned.

And no answer came.

He adjusted the telescreen controls with a grim hand, and one by one the control rooms of the other ships in the fleet came into focus.

And each one was empty. There wasn't a single Patrol Officer on any of them!

VERY slowly then Dan turned away from the telescreen. He stared into the visiplate, saw the blackness of outer space close over the fleet, knew that their speed would now increase until they approached the speed of light. And

the distance between Mars and the Earth would vanish.

He thought desperately then. There had to be a way out, for he was certain now. He knew the terrible plan that had been set in motion.

He turned away from the controls and faced Fenton and the girl.

"Listen to me!" his voice was strained as he shouted at them. "Gene! There isn't an invading army with us—we're the only Earthmen in the entire fleet! The other ships are under robot control with this one! Do you know what that means? Do you know what's happened to you?"

And they stared at him with blank expressions. Only in Fenton's eyes did Dan see any reaction to his words. And it was a subtle look, a dull flicker that rose from their depths. A look of mockery, as if Fenton knew something deep within his subconscious.

And then suddenly Dan stiffened.

A voice spoke to him. A voice that did not come from the control room. Not from the lips of Fenton or Gene Phillips. A voice that echoed in a rumbling thunder in his mind. He felt it sweep over him, a force so great that his body was numbed with it.

"It has been an interesting game, playing with you, Commander Moran. But now the time has come for the game to end. Do you know who is speaking to you?"

The voice ended abruptly, and with a chilling sensation, Dan knew where the voice had come from.

"You!" he whispered, horror creeping into his voice. "*The Martian!*"

"That is correct, Commander. I am called Mogar amongst my own people. You may address me as such if you wish."

"Then I was right—you are responsible for all this!"

There was a sound of deep thunder-

ous laughter from the ape's mind.

"Yes, Commander. And I have watched you closely, played my little game with you, seeing just how intelligent your race actually is. You alone of all the Earth people I did not control mentally. For you see, Commander, every man and woman on Earth has been under my mental control since the day we landed on your planet!

"Only you did I allow mental freedom. I knew you could not obstruct my plans, and I was curious to know if you would recognize what was happening to your people. And you nearly fooled me. That little trick you pulled on me when you shut off the thera-ray controls. I missed it at the time. And I wondered what had suddenly made you aware of my powers. . . ."

And as the ape's voice trailed off, Dan's mind seethed with thought. His mind raced back to the day they had first captured the Martian. He remembered now that he had thought it strange that only one Martian had appeared. And afterwards, when they had shot away from the surface of the planet, he remembered that the Martians had suddenly appeared to watch the space ship leave. It had been planned that way. He knew it now. Now when it was too late.

And he knew other things. The reason for the tour of Earth cities. To put the people even further under the control of the Martian, to keep their attention as the Council, under Mogar's mental direction, constructed the huge space fleet.

AND as he thought of the space fleet, he wondered again. What was it for? Why had this Martian directed the science of Earth. . . .

And as he thought, the voice of Mogar laughed in his mind again.

"You are absolutely right, Com-

mander. Things worked out just as you have deduced. It was all planned. From the first time you scouted our planet. And you wonder why I have done this? Why your Earth science has been used to construct this huge fleet? I will tell you. Now that it is too late for anything to stop my plans.

"The answer is very simple, Commander Moran. We of Mars have developed along entirely different lines than you of Earth. Our science is a mental one. Yours is a mechanical one. We have none of your mechanical development on Mars, a sad but true fact. And our planet is old and can barely sustain life any more.

"It is for this reason that I have used the mental powers of my race to control your people. This huge space fleet will not attack Mars as your foolish leaders were made to believe. Instead, members of my race will return to Earth in this fleet. We will make it our new home.

"As we approach Mars I will direct each of the ships, through you, to a city of my people. The ship will land there and take on members of my race. Then we will return to Earth. . . ."

And as the voice of the ape trailed off in Dan's mind, the chilling question left his lips.

"And what of Earth? And its inhabitants?"

Even as the voice of Mogar laughed contemptuously, Dan knew what the answer would be.

"Your people have served their purpose. We of Mars will take over your planet, and your Earthmen will die. . . ."

It was true then. The thought that had raced through Dan's mind. The final horror that had swept up inside him. And the picture was now complete. It stood out in all its ghastly relief.

He stared into the visiplat, saw the dot that was Mars streaking ever closer under the terrific speed of the space fleet. And he knew that once they reached Mars it would be too late.

"There is nothing you can do, Commander, rest assured. I am going to take over complete control of your mind from this point on. You will act only under my directions. Do exactly as I say."

And as the voice of Mogar stilled again, Dan felt the mighty intellect of the Martian converge upon his brain. And in that split second Dan knew what he must do. For deep in his subconscious a memory made itself evident. And he masked the thought even as it was born so that Mogar would not be aware of it. For he knew something. Something that even the mighty brain of Mogar had failed to grasp. And it was the only chance. . . .

Dan felt the overpowering wave of thought from the Martian sweep through him, and already he felt his own will power vanishing.

But he moved. In the last moment of control his body possessed he moved. Up beside the motionless figures of Fenton and the girl. And then his hand shot out and closed over the switch of the telecast set.

Instantly the screen flickered into life and Dan saw the face of a newscaster on Earth. He heard the voice of Mogar laugh mockingly.

"What good will it do you to contact your Earth people?"

But Dan's fingers already had switched the station he was receiving. The screen blanked for a moment as the new station began to come into focus.

And it was then that he lost control of his body. It was a sensation of utter helplessness as the mighty thoughts of Mogar enveloped him.

But his eyes were still fastened on the screen. And the picture cleared. It was a studio on Earth, and an orchestra was playing a routine telecast program.

And the music suddenly flooded the control room.

AS THE sound struck his ears, Dan felt the mighty grip of Mogar loosen on his mind. He felt the sudden paralysis that gripped the mind of the Martian, and a fierce hope swept through him. For he had remembered how the music had affected the beast, hypnotizing its sensitive mental balance. And it was doing it again. . . .

And then suddenly the Martian's control vanished and Dan knew that the creature was in a trance-like state, the same sort of state he had put the people of Earth in.

And as the Martian's control left him, he heard the girl suddenly sob beside him.

"Oh, Dan! My mind is free—it's been horrible! . . ."

And as Moran reached out and adjusted the controls of the telecast program, bringing the music in loudly, he saw Blake Fenton move toward him.

"You fool!" Fenton's voice snapped out. "Turn off that music! Mogar's control is gone without it!"

Moran whirled on Fenton, surprise in his eyes. "Good Lord, man, don't you realize what this means? We can still beat them before it's too late!"

Fenton shook his head savagely. "Beat them! You really are a fool! Mogar has promised me complete control of Earth after his people reach it! Do you know what that means to me? Power that no man ever dreamed of—and you're not going to stand in my way!"

He moved forward then, and the girl moved in between them.

"Blake! You're mad! You don't know what you're saying!"

Fenton's fist shot out and hit the girl's chin savagely. She uttered a single cry of pain and then fell backwards, against Moran.

Dan lowered her to the floor of the control room as Fenton's hand reached out to switch off the telecast set. Then Dan lunged forward, his fist striking out in a desperate movement.

He caught Fenton's face in a grazing blow and the man staggered back. Then Dan leaped forward and Fenton's foot kicked upward, catching him in a numbing blow.

Pain seared through Moran in that moment, an agony that sent him reeling backward against the telecast machine. His body hit it a jarring blow and even as he lunged forward again, he heard the music from the set begin to waver. As he lashed out at Fenton again he knew that he had upset the delicate balance of the machine, and the fear spread through him that its power would fail.

He met Fenton's attack with a fierce desperation. His fists smashed into the man's face, and then Fenton groaned and his knees began to buckle under him.

Once more Dan smashed his fist into Fenton's jaw. And then Fenton collapsed to the floor, blood running from his torn mouth.

Dan staggered back from Fenton's unconscious figure. His eyes rested upon the white face of the girl as she lay on the floor where Fenton's blow had thrown her. But he knew he didn't have time to help her now.

He threw an anxious glance at the telecast machine. He saw the image of the studio orchestra on Earth flickering, and the sound of the music was mixed with a rising static. It might cease at any moment. And if it did . . .

HE STOOD before the visiplat then, his eyes fastened on the rapidly approaching disc that was Mars. And as he stood there, counting the seconds as they sped by, and listening to the sound of the music grow more and more confused and distant, he knew that it would not be long before Mogar regained control of his mind.

And then his fingers were at the controls, slowing the speed of the great space fleet as the surface of Mars grew in the visiplat.

And from the distance he could see a huge portion of the planet's surface. And he saw the irregular dots on the surface that marked the cities of the Martians. Cities, where even now, he knew, giant white apes were staring up into space, waiting for the fleet that was thundering down toward them. Waiting to board those vessels and return to Earth. . . .

And then Dan Moran's hands flew rapidly over the controls. He released the robot controls on each ship of the fleet at a time. And as each one was released, he reset the controls, locking each vessel in a new course.

And then he waited.

And as the music grew more discordant from the telecast, his eyes watched the ships of the fleet flash down through the Martian skies. Flash down and separate in their new courses.

Dan felt a strange thrill course through him as he watched them thunder through the thin Martian atmosphere, heading straight for the Martian cities that dotted the otherwise barren landscape of the planet.

And then the first ship struck.

There was a flash of light. Intolerable to behold as the atomic engines of the ship exploded in a mighty blast of atomic energy. And the city was obliterated in a cloud of rising smoke and flame.

And another ship struck. And another.

Until the surface of the planet was a mighty holocaust of flaming destruction. The terrible force of atomic power that was destroying the ape cities.

His eyes were held in an awed fascination at the sight. But then, as the music almost faded away completely, he wheeled from the visiplat and set the controls of the space ship into a locked position.

He felt the ship begin to thunder toward the Martian atmosphere as he rushed over to the girl and picked her still limp body in his arms.

Then he was dashing through the companionway and into the auxiliary rocket chamber. He breathed a sigh of relief as he saw the slim tapering scouting ship that rested in the airlock.

And then he was inside the scouting ship, laying the girl gently on a chair before the control panel. Hastily he strapped her safety belt to her waist, as she opened her eyes.

"Dan—"

"There's no time to talk now!" he told her, seating himself before the controls of the tiny craft.

And his fingers flashed across the control panel.

There was a rumble of sound from the mother ship as the airlock hissed open. And then the tiny ship shot out from its side, out and away into the fringes of outer space.

Dan's eyes were glued to the visiplat of the vessel as he maneuvered away from the mother ship. He saw the huge space cruiser thunder down toward the surface of Mars.

And then the voice of Mogar thundered in his mind.

"You tricked me!" Mogar screamed. "You did have a weapon! But your machine is no longer functioning—and you will die! *You will die!*"

HE HEARD the girl sob beside him, and he knew that the might of the Martian's thoughts were controlling her too. And then he saw a projected image of the control room of the mother ship. He saw Fenton staggering to his feet, driven by the power of Mogar's brain. And Fenton was moving slowly toward the controls, even as Mogar's thought wrath blasted into the mind of Dan Moran.

There was a numbing pain that shot through Moran in that moment. And he knew that in seconds his life would be ended by the terrible power of that thought blast.

And in the final moment, as he felt his consciousness leaving him in a terrible agony of pain, his eyes saw a brilliant corruscade of light shoot up from the surface of Mars. The space ship had struck the surface and exploded in a burst of atomic energy.

And the grip of Mogar's mighty intellect vanished from Dan Moran's mind.

He sat weakly in his seat before the control panel, feeling a cold sweat bead-

ing his forehead.

And beside him the girl touched his arm with her hand.

"... Dan—is Mogar dead? ..."

He nodded weakly. "Yes. And the last of his race with him. ..."

"... And Fenton ..."

A grimness lined Dan's lips. "Fenton deserved to die. He was willing to plot against his fellow men with a race of aliens. ..."

He heard the girl sigh, a touch of horror in the sound she made. "It was terrible—I couldn't think for myself—every word I uttered I was forced to say ..."

"I know," Dan nodded wearily as he set the controls of the ship back toward Earth. "But it's all over now, Gene. Earth is saved ... and so are we. ..."

And then she was in his arms, sobbing against his shoulder. And as he held her close against him, he knew that he would not have to try to say the things he wanted to to her. The words would come easy now.

But not for a long moment—not until after his lips left hers.

CYBERNETICS—NEW SCIENCE



By H. R. STANTON



DR. NORBERT WIENER, an American mathematician, in cooperation with a number of friends, physicists, biologists, biophysicists, and others, has instigated studies into a new branch of knowledge, which he calls "cybernetics." Cybernetics is a Greek word meaning "steersman" and it was the name chosen to describe this new science which is the study of the human brain and nervous system in connection with the modern machine. It is a science which is concerned with the methods of communication and control both in the nervous system and in machines. It is surprising what subtle analogies may be drawn between control mechanisms and the human nervous system.

It is a definite fact that there is a strong comparison between the human brain and a modern complex computing machine. The physical quantity that cybernetics is concerned with is "feedback," so well known to communication engi-

neers. Dr. Wiener, in an article in the current *Scientific American*, explains clearly what is meant by this.

Suppose you consider the act of picking up a pencil. Previously it has been thought that primarily what occurred was that the brain telegraphed a signal to the arm muscles and they went ahead and did the job. This is still true, but there is a more complex relationship to be considered. The amount of distance by which the hand has failed to pick up the pencil in some elusive way provides back to the brain a signal stating its position. In other words there is feedback to prevent the hand from overshooting its target. This quality is now discovered to be of great importance in considering how the brain works. The human nervous system is a closed system comparable to a computing mechanism. It is not simply a "thought-nervous impulse-act" device. The quality of feedback is everywhere.

In such gadgets as computers, radar locators, anti-aircraft control machinery and so on, feedback is extensively employed to eliminate hunting. Feedback counteracts to a certain extent the original motion. It is a measure of the error of the system. Thus, in a plane-tracking mechanism a signal is developed which is proportional to the difference between the target and the present position of the gun which in turn controls the way the weapon will swing on the target without overshooting it.

The jamming of a computing machine due to the failure of its components has a similar analog in the jamming of the human mind. When a complex machine is jammed, we may cut out the elements which are jammed. Likewise, when a human brain is "jammed," when the mind has gone insane, we may have to resort to surgery to "clear" it.

It is apparent that cybernetics is going to be a science of the utmost importance in the future. As Dr. Wiener points out, electrical engineering has been divided into two fields, power engineering and communications or control engineering. It is a subject of large currents in the first case and of small currents in the second case. Now there must be a union of the two. Controls and power are not sufficient unto themselves. We see it more every day in the application of automatic machinery invariably controlled by electronic mechanisms.

Automatic machinery is essentially a matter of a mechanical brain. This is where cybernetics comes in.

In order to explain more clearly what is meant by feedback, consider the operation of such a simple device as a home heating system with automatic controls.

If a thermostat is used here is what happens. The thermostat calls for heat. The gas or oil

burner goes on and starts pouring heat into the system at a high rate. But the thermostat won't open up and shut off the burner until the temperature it called for is reached in the room. By this time, too much heat has been poured into the system, and the result is that the room overheats. A graph of the heating of this type of system shows a deep wavy line.

What is needed to correct this? Incorporated in the thermostat is a small electric heating element. As the thermostat calls for heat, this minute heating element in the thermostat goes on. It warms up the thermostat to a higher temperature than the room. The result is that the burner shuts off some time before the room reaches the temperature for which the thermostat has called. The heating system then "coasts" up to the required room temperature without overshooting it. A graph of this system shows a relative smooth line.

Feedback of this type is found in practically all automatic mechanisms which attempt to duplicate human functions. Now the physiologists come along and discover the astounding fact that within the human body, such feedback devices have always been in use. Apparently there is nothing new under the sun. An excellent analog in cybernetics is the comparison drawn between an automatic telephone exchange and the human brain. When an automatic system becomes overloaded, calls cannot be put through. Likewise, when the human brain becomes overloaded "signals" do not come through.

The study of automatic mechanisms has been discussed often in this magazine because it is realized more and more that this is the future. We spoke of automatic factories without any human attendants. The study of cybernetics is just one more step in this direction. We shall see this day and not far off when true automaticity can be obtained.

TELEPHONE ROBOT



By SANDY MILLER



AUTOMATIC machines are nothing new in our civilization. We see and use them every day, but perhaps the most outstanding device in everyday use is the dial telephone. This is truly a weird monster of automaticity.

There are on exhibit in the various science museums of the country token examples of this machine, so constructed that the operator can actually see what happens when he dials a number. It is incredible.

Automatic phone systems consist of innumerable relays connected together in a very complex fashion. Little electrical impulses actuate these relays as the proper numbers are dialed. Little metal fingers reach out and make the

proper contacts in the correct sequence as the electrical impulses guide them.

When errors are made on the human side, the machine is capable of recognizing them, and with astounding efficiency proceeds to reject the erroneous impulse.

As one watches these mechanical marvels in operation, one has the feeling of observing a brain in action. The comparison is not inept. An automatic telephone exchange is remarkably like a human brain. In fact, the human brain is more complex. It is hard to imagine anything more involved than one of these systems. And like a human nervous system expressing pain, the automatic system is capable of recognizing a mechanical failure and signaling it!

THE MURDER RAY

By E. K. JARVIS

Kuvar's demand was simple: Pay his price or die. And of course, with the murder ray it was an easy task to make it look like suicide!



SIX men were gathered in a big private room of the luxurious City Club of Chicago.

All six of them were a little scared.

One, with perhaps a keener sense of danger than the others and therefore a little more scared, had just made his will.

He was reading the last paragraph: "—the entire income from the trust herein created and set up is to go to my daughter, Patricia Beacon—" when the telephone buzzed.

The six men looked suspiciously at the instrument. It was sitting on the writing desk in front of the man who had just made his will. He hesitated a moment, then picked it up.

"Hello," he said.

The metallic rattle of the voice at the

other end of the wire was audible to every man in the room but only the man holding the phone could understand the question.

"Yes," he said, answering that question. "This is Samuel Beacon."

The metallic voice rattled in reply.

For an instant, Beacon looked startled. Then he quickly cupped his hand over the mouthpiece and spoke a single word to his five companions.

"Kovar," he said.

If he had yelled, "Rattlesnake!" they would not have looked more startled.

Their voices rose in a buzz.

"What does he want?" Cullinane, a corporation lawyer, questioned.

"Stall him," Marks, the owner of a chain of drug stores, said.

"See if you can get him to come up



While the others looked on in horror, Beacon placed a gun against his head and fired . . .

here and talk to us," Hogue, a patent attorney, suggested.

"Tell him to go to hell for me," Cooper, a broker, said.

Only Michael Trent said nothing. An efficiency engineer, he was the youngest man in the room. Unlike the others, he was not stinking rich, which made him an impossible prospect for Kuvar. However, Kuvar didn't seem to know this.

Trent was on Kuvar's list for a hundred thousand dollars.

"Shut up!" Beacon hissed at them. "I'll find out what he wants."

The buzz of their voices was instantly stilled.

Beacon took his hand off the mouthpiece of the telephone.

"What's on your mind, Kuvar?" he asked.

The metallic voice rattled in the room.

"I'm well aware that your offer to sell me two hundred thousand dollars worth of stock expires at midnight tonight," Beacon said.

The phone rattled again.

"Yes, I also know it's 11:30 now," Beacon replied.

Kuvar's voice whispered on the phone. Beacon listened, then replied.

"What am I going to do?" he said.

"Nothing. Those stocks you are trying to sell me aren't worth the paper they're printed on. I'm not going to buy them, Kuvar. Yes, that's my final decision. What's that? I'll be sorry? Are you threatening me—"

The distant click of a telephone receiver going back on the hook rattled in the room. Beacon listened a moment, moved the hook up and down, got no answer, then slipped the phone back into its cradle.

"He hung up," he said.

There was silence in the big room. Down fifteen stories the rattle of an

elevated train in Chicago's Loop was barely audible. Somewhere off in the night a taxicab honked on the Outer Drive. Far out in the lake the whistle of an ore boat moaned in the night.

Beacon looked sad. His thin, ascetic face under its halo of snow-white hair showed the effects of strain.

He had just made a decision. It was a very important decision. He had known he was going to make this decision. This was the reason he had made his will.

HE TURNED back to the desk, picked up the will, studied it for a moment, then laid it down again. For the next few seconds the only sound in the room was the scratch of his pen as he signed the document.

Cullinane and Marks signed as witnesses, making the document legally complete.

"Pat is my sole heir," Beacon said. He was speaking to Trent now.

Big Mike Trent squirmed in his chair. He didn't like this situation, he didn't like it a bit.

Beacon seemed lost in thought. "She will have more money than she will ever need," he said musingly. "That much I can do for her. I can give her money, plenty of money. But there are other things she will need that can neither be bought by money nor conveyed by will."

Again the fine eyes were on Mike Trent.

"I hope you will be good to her," Beacon said.

"You can be certain of that!" Mike Trent answered. "But damn it, sir, I don't like this a bit. You talk as if you were dead. That's ridiculous nonsense. You've got a great many good years ahead of you yet!"

Beacon smiled.

"You forget Kuvar," he said.

His words, and the way he talked, produced a chill in the room. Every man present was trying to forget Kuvar, for the very good reason that every one of them was on Kuvar's list.

Kuvar was a salesman. Or so he represented himself to be.

He sold stocks and bonds.

The securities he sold were worthless.

People threw him out of their office when he called on them, told him he was a crook. He came back to see them, told them they had two weeks to make up their minds, hinted they would be sorry if they didn't buy.

He didn't exactly threaten them but the fact that he was trying to sell worthless securities at par or above was in itself a threat. Obviously he knew the stocks were worthless. He also knew his clients knew they were worthless. The stocks were only a subterfuge, a method of getting around the law, of staying legally in the clear. He wasn't selling the stocks.

Then what was he selling?

The fact that he gave his victims two weeks to make up their minds, that he told them they would be sorry if they didn't buy, indicated that maybe he was selling them their lives.

The expression, "Your money or your life," is as old as the human race, as old as highwaymen, as old as bandits, as old as robbers.

Was Kuvar using this old expression? Was he saying indirectly, "Your money or your life"?

Kuvar had called on each of the men in the room. Each in his own way had told him to go to hell. The law protected them from bandits, from robbers with guns.

BUT deep in his mind each of them wondered if the law did protect him. There might be dangers of which

the law knew nothing, against which the law was powerless. And the law, moving by means of cumbersome political machinery, was slow. It was always slow. The bandits were always ahead of it.

Chicago gangsters were using sub-machine guns before the police department scarcely knew that such things existed.

Bank robbers were using high-power cars for fast getaways while the police were still using horses.

The crooks always moved faster than the guardians of society. Oh, the cops caught up with them eventually but what good is it to a dead man to know that five years after he is dead the police will learn how to protect him.

The six men in the private room at the City Club were thinking these things. Their thoughts were not comfortable. What was Kuvar selling?

Beacon was the first man of the group that Kuvar had called on. His two weeks expired in—

Mike Trent looked at his watch.

It was midnight.

Around the room he saw the others surreptitiously glancing at their time pieces. They were trying to be casual about it, but each of them was desperately intent on the time. Was something going to happen at midnight?

They didn't know. But Kuvar had given Beacon until midnight to make up his mind to buy.

Beacon wasn't buying.

Trent watched Beacon.

The older man sat quietly in his chair at the writing desk. He had folded up the will and tucked it into the inner pocket of his coat. The end of it was barely visible behind the lapel of his coat.

His face was calm and serene. There was a quietness on it, a peace that was wonderful to behold. In that moment

be looked like a man who had forgotten the meaning of the word *trouble*. Or had never known what the word meant. He was at peace with the world.

Beacon smiled. "I'm sort of heing a guinea pig for you fellows," he said.

"How is that?" Cullinane spoke. Cullinane was a big man with bushy black eyebrows and a strong face.

"If nothing happens to me, then you will know you're safe," Beacon explained. "On the other band, if something does happen to me, then you will know to start digging into your hank accounts to pay off Mr. Kuvar."

"I'll see Kuvar in hell before I pay him a red cent!" Cullinane answered vigorously.

"That goes for me too," Cooper spoke. Cooper was a little man with a completely bald head and the habit of blinking his eyes vigorously when he was getting ready to speak.

"I think we're being a bunch of damned fools," Marks, the drug-store man, said explosively. "I think we're acting like a lot of old women. We're sitting around here worrying about something that's going to happen. Nothing is going to happen. Nothing can happen. Kuvar is just a high-pressure salesman trying to talk us into making bad investments. That's all there is to it. That's all there *can* be to it. When we tell him to go to hell, that's the end of him."

Marks had risen from his chair. He began to pace back and forth across the room as overloaded nerves sought release for the tension that was building up in them.

"It's damned nonsense!" he shouted.

Beacon looked speculatively at him but said nothing. He turned to Hogue.

"What do you think?" he asked.

Hogue looked like a fat, impassive lizard. He shook his head.

"I prefer to wait and see," he said.

Trent stole another glance at his watch. The time was fifteen minutes past twelve.

While Trent was looking down at his watch, Beacon took a pistol out of his side coat pocket, pressed it against his temple, and pulled the trigger.

THE sharp explosion of the pistol froze all motion in the room.

Marks stopped pacing the floor.

Cullinane looked like he had stopped breathing.

Hogue, his mouth hanging open like a lizard frozen in the act of reaching for a fly, stared at Beacon in dazed disbelief.

For once, Cooper had stopped the rapid blinking of his eyes.

Mike Trent sat without moving a muscle. He saw the smoke from the gun, he saw the little blue hole in Beacon's temple, he saw Beacon's arm relax, and he saw the pistol fall to the floor. He moved, then. He caught Beacon before the financier fell out of his chair.

"Get a doctor, quick!"

Cullinane went out of the room on the run to obey the order. Many of the members of the City Club were physicians. He would have no trouble in finding a doctor in the building.

Trent laid Beacon on the couch. The three other men clustered around him. They were still dazed by the suddenness of Beacon's act, by the fact that it was so completely unexpected. They hadn't had time to think yet. That would come later.

"He—he shot himself!" Cooper whispered.

"I—I didn't even know he had a gun!" Hogue gasped.

"What the hell did he do that for?" Marks irritably asked. Marks was caught entirely off guard. He wasn't thinking about what he was saying.

He was talking off the top of his mind and the words he used expressed the shocked condition of his brain.

On the couch, Beacon opened his eyes.

"I—" His lips formed the words slowly. "I—just suddenly got tired—of living!" he whispered.

"Tired of living?" Mike Trent echoed the whisper. "Did you intend to shoot yourself all the time? Was that why you made your will?"

"No," Beacon whispered. His voice was fluttery and he was fighting hard for breath. "I had no thought—of suicide. Then—suddenly—it seemed the—only thing to do—the only way—to solve all my problems. So—so—"

A little globule of blood and grayish matter oozed out of the hole in his head. His eyelids fluttered. His chest heaved once as he fought for breath and he tried to sit up.

The effort was too much. He sighed, his muscles relaxed, and he fell back on the couch.

The fight for breath had ended. There was a smile on his face as he died, a peaceful, serene smile.

The room seemed suddenly empty, suddenly quiet, as though something that had occupied it had gone out.

Then Cullinane came hurrying through the door, urging a startled physician ahead of him. No one in the room needed to hear the doctor's verdict to know that Samuel Beacon was dead. They knew how he had died too. The only question they couldn't answer was why.

THIS question did not perplex the lieutenant and the two plainclothesmen from the homicide squad who came to the club in response to the doctor's report of a suicide. He looked at the dead man, listened to the stories of the witnesses, took their names and

addresses, and told them they would have to appear at the inquest. The fact that five men said Beacon had shot himself was enough evidence for the lieutenant, but to be on the safe side, he ran a nitrate test on all of them, including the dead man. The test was negative except for Beacon's right hand. This laid to rest any lingering thoughts the lieutenant had about murder.

"I think there is more to this death than appears on the surface," Mike Trent protested.

"Like what?" the lieutenant asked.

"Like a man by the name of Kuvar," Trent said. He explained about the salesman's efforts to sell worthless stocks and how he had given Beacon until midnight to buy or be sorry.

"Do you think this fellow Kuvar killed him?" the lieutenant snorted. His tone of voice indicated he thought Trent was trying to play detective.

Trent flushed. "No," he said. "But—"

"Hell, all five of you saw him shoot himself," the lieutenant answered. "The nitrate test shows he's the only man in the room who has fired a gun. If that's not suicide, I'll eat my hat."

"I know it's suicide," Trent answered. "But I've got the feeling that the fact that Beacon killed himself fifteen minutes after Kuvar's ultimatum expired is somehow important. I think Kuvar ought to be investigated."

"Coincidence," the lieutenant explained. "This town is full of hot shots who are trying to sell something. I understand this fellow Beacon had plenty of hucks, which means that all the hot shots were trying to sell him something. Hell, if there hadn't been any salesmen after him, then that might have been important, but the fact that some high pressure bond man was trying to unload a package of cats and dogs* on

*Cats and dogs—worthless securities.—Ed.

him don't mean a damned thing."

"I still think Kuvar ought to be investigated," Trent insisted stubbornly.

"Nuts," the lieutenant answered. "You can't argue with five men and a nitrate test. These are facts. They all say suicide. Okay, boys. Come in and get him."

The last was spoken to two men who had appeared at the door with a stretcher.

Trent watched the two men slide Beacon's body on to the stretcher. They covered it with a blanket, took it away. The lieutenant from homicide went with them.

"Well, that's that," Cullinane said. He looked at Trent. "Mike, I listened to the questions you asked that policeman. Did you have any reason for asking those questions?"

Trent shook his head. "Beacon committed suicide. I *know* that. The fact that he shot himself within fifteen minutes after Kuvar's ultimatum expired strikes me as being too much of a coincidence."

"I hate to disagree with you but I think the cop was right," the lawyer answered. "Why, if Kuvar had anything to do with Beacon's death—" The startling thought struck him. "If that's true, then all of us are in the same boat, we either pay off or we kill ourselves!"

THE thought jarred Cullinane, it rocked him right down to the bottom of his legal mind. The shock showed on his face. Beacon had killed himself. That was unfortunate, that was a sad thing, but what was more unfortunate, what was sadder—to Cullinane—was the thought that *he* might kill himself too. If the thought of Beacon killing himself shocked Cullinane, the thought of Cullinane shooting himself shocked Cullinane a damned sight

more. That idea went home with a bang.

"I might kill myself!" the amazed lawyer gasped.

"And so may all of us!" Hogue said grimly.

Cooper and Marks looked like they had choked on something. The implications of Beacon's death were getting home to them now, home to all of them. And they weren't liking those implications, they weren't liking them the least little bit.

"We'll take this up with the police," Cooper whispered. "We'll demand protection."

"Protection against what?" Mike Trent asked.

That was the catch: protection against what?

"But surely the police—" Cooper continued.

"You just saw the police in action," Trent said bitterly. "You heard me talking to that lieutenant. In his books, this was suicide. If all of us go the same way, it will still be suicide—"

"But Kuvar couldn't have had anything to do with Beacon's death," Marks protested. "It just isn't possible."

"The Japs in Hiroshima thought atomic bombs weren't possible—until one landed on them!" Trent answered. He wondered if he was talking to them, or to himself. Why was he trying to tell them that more was hidden behind Beacon's death than ordinary suicide? He didn't have any reason, not the flimsiest kind of a reason for thinking that Kuvar had had anything to do with Beacon's death, except—and this thought kept returning to his mind—except, that just at the stroke of midnight, Beacon had suddenly started looking peaceful.

But that was silly. He knew it was silly. A man didn't look peaceful when

he was going to kill himself. Or did he? But Trent kept remembering the sudden way the peaceful expression had appeared on Beacon's face, and he kept remembering how Beacon had insisted on making his will—as though the financier knew something was going to happen, as though he had sensed death in the offing, death waiting around the corner, around the movement of the hands on a clock. Deep in Trent's mind hidden nerve centers kept telling him something was wrong.

Cullinane regained control of himself first. His legal mind, his training in cause and effect, reasserted itself.

"This is nonsense," he said firmly. "I know it's nonsense. And I, for one, am going to stop thinking about it. I'm going home and go to bed—a course of action I recommend for all of you."

There was logic in what he said, cold, hard logic. The sanity of the law, of everyday life, was in his words and in the way he spoke.

"Good night," he said, starting toward the door.

On the desk the telephone buzzed. Trent picked up the instrument.

"Mr. Cullinane, please," a metallic voice said in his ear.

"It's for you," Trent said, handing the phone to the lawyer.

"Who's calling, please?" he heard the lawyer ask.

Cullinane got an answer that lifted his eyebrows into startled v's.

"Damn you! What do you mean by calling me at this hour of the night?" the lawyer exploded. "What's that? You've been trying to reach me at my home and I wasn't there? What kind of an excuse is that? I don't give a damn—What? You had to call me to remind me that my time expires at midnight tomorrow? Why, damn you, Kuvar—"

Then Cullinane was speaking to a

dead phone. He jiggled the hook.

"Your party has hung up," the switchboard operator told him.

WHEN he replaced the phone in its cradle, the lawyer's face was covered with a sudden film of perspiration.

He looked at his four companions. "That was Kuvar again," he said. "Calling to remind me that my time is up tomorrow night. Gentlemen, put these two facts down in your books: I am *not* going to buy Kuvar's stocks and I am *not* going to commit suicide. Goodnight!"

His voice was hot with anger. Under the anger there was fear.

He walked out of the room; slammed the door violently behind him.

The four men looked at each other in silence.

Bald-headed little Wallace Cooper hlinked his eyes nervously and spoke. "If something happens to *him*—" he whispered.

"We'll know where we stand," Trent answered. "And now, goodnight. I've got a very unpleasant job ahead of me and I can't put it off any longer."

The job was calling Patricia Beacon and telling her that her father was dead. He knew how much her father meant to this young woman and he knew how hard it was going to be to tell her that her father was dead. He didn't want to be the one to give her this sad news, but someone had to do it, and the bond that existed between this big efficiency engineer and the lithe Lake Forest girl made him the man for the job.

He went down to the lobby of the club and got Beacon's home on the phone. And found he didn't have to break the bad news to Pat. The newspapers, picking up Beacon's name from the police reports, had already called her. So she knew what had happened. And all he had to do was to go out to

Lake Forest to be with her until some of the shock had worn off.

He walked from the club to the all-night garage where his car was parked. Chicago's downtown district was quiet and almost deserted. The only sign of life were two men busy removing some kind of radio antennae from the top of a small black truck parked at the curb. Inspectors from the power company checking for current leaks by radio, Trent thought.

Getting his car from the sleepy garage attendant, he drove out of the Loop and turned north along the lake shore drive.

The night wind along the lake was cool on his face but it did not blow the shadow of fear out of his mind. Why had Beacon killed himself? Was his death ordinary suicide or was it something else? How could Kuvar profit from Beacon's death? You couldn't sell stocks to a dead man.

On the other hand, if a couple of men died after refusing to buy your stocks, you might find the sales resistance of your remaining prospects diminishing rapidly.

He reached Lake Forest. Then he was holding a sobbing girl in his arms, trying to comfort her, trying to think of the right words to say to make her feel better. As if there were any right words!

"I know Daddy didn't commit suicide," Pat Beacon sobbed. "The reporters said he did but I know he didn't. He didn't do it, did he, Mike?"

"Easy, Pat," he answered.

How could he tell her that her father hadn't killed himself when he had been in the room when it happened? How could he prove suicide was murder?

Maybe he didn't want to prove it.

He was on Kuvar's list too, for a hundred thousand dollars.

He didn't have fifty thousand dollars.

If Kuvar was saying, "Your money or your life," Big Mike Trent knew the answer to the question.

He didn't have the money.

It would have to be his life.

"Easy, Pat," he said to the girl. "Remember, there are things we don't understand, questions we can't answer—"

In his heart he knew he was also saying to himself, "Easy Mike. Easy, lad—" in an effort to calm the mounting panic in his own mind.

LESS than twenty-four hours later he had his answer.

Richard Cullinane, rich corporation lawyer, leaped from the tenth floor of the exclusive City Club to his death on the hard Chicago pavement below.

EARLY the next morning the telephone rang. Hogue was on the wire.

"I suppose you've seen the papers," were the patent attorney's first words.

"Yes," Trent answered.

"Then you know about Cullinane."

"I know," the efficiency man said.

There was silence at the other end of the wire. "Trent, what are we going to do?" Hogue blurted out.

"You tell me," Trent answered.

Silence again. Then Hogue spoke. "What I called you about, Trent: Cooper and Marks are coming to my office this morning. We're going to try to decide what to do. Do you want to come?"

"I'll be there," Trent answered. "What time?"

"As soon as possible. Nine, if you can make it. Cooper says he was with Cullinane when—ah, last night. You may want to hear—ah, what happened—"

"I guess so," Trent answered slowly, as Hogue hung up.

Trent took a hot shower, then fin-

ished off with an ice-cold needle spray that sent the blood coursing vigorously through his body. Dressing slowly, he wrestled with the problem confronting him. What the hell was he going to do?

All his life big Mike Trent had been solving problems. He was an industrial engineer, an efficiency expert, and one of the top men in his field. When a steel plant wasn't turning out the quality of metal it had once produced, the management might call Trent in, to find out what had gone wrong and to tell them how to cure it. That would be a problem that might require months of his time, part of it spent in overalls in the plant itself, part in a laboratory running delicate chemical tests, part in the public library doing research. Trent might go to his office any morning and find a call from an auto body manufacturing company in Detroit. Their giant dies weren't working quite right. Would he come up as a consultant and help their own engineers locate the trouble? Or he might find a hurry-up call to come to Oak Ridge, Tennessee. A plutonium pile down there was growing too hot. Or to Boulder Dam. One of the big generators out there was not delivering the proper amount of current. Could he help? He could try.

During the war he had worked on everything from atomic energy to how to use steel instead of brass for shell cases. He was an all-around engineer and he knew something about everything. If he was regarded as a very bright lad in his field, it was the result of a natural bent for solving problems—the harder they came the better he liked them.

The problem he was facing now he didn't like the least bit. Sudden death was out of his field. What the hell was he going to do? Well, the only answer was first things first. And Kuvar was first.

I want to know all about that bird, he thought. I want to know where he comes from, where he lives, what he eats, what he drinks, whether he likes blondes or brunettes, who his friends are . . .

How was he going to find out about Kuvar? He couldn't make the investigations himself. He didn't have time, in the first place, and in the second place, he didn't know how. The only solution was to find somebody who did have time and who knew how.

I've got it, he thought. There are such things as private detectives . . .

He called his secretary at her home. "Rose, I'll be at the office about eleven this morning. When I get there I want you to have a private detective waiting for me—"

Rose was startled. She had experienced some strange requests from her boss but a private detective was something new. "A private detective, Mr. Trent. Gee, are we in trouble?"

"I'll say we are!" Trent answered, and hung up.

He didn't know whether a private detective could help him or not but it was at least a step in the right direction. At nine o'clock he entered Hogue's office.

HE WAS a little surprised at the elaborate offices the man maintained. He knew Hogue the same way he knew Cullinane and Marks and Cooper, as fellow members of the City Club, people with whom he played bridge or poker occasionally. The City Club had too many members for him to know them all personally, or for him to know much about them except a few intimate friends like Beacon. Although he had seen Hogue around the club for years all he knew about the man was that he was one of those rare specialists, a patent attorney, a lawyer whose job was to know patent law and who han-

dled the legal details consequent upon application and possible granting of patents. Large corporations, holding hundreds and possibly thousands of patents or patent licenses, found these specialists indispensable, as often did the back-yard tinkerer seeking a patent on an invention that might be worth millions, or might not be worth a damn.

A platinum blonde secretary with a figure that ought to have been in the movies greeted Trent as he entered, took him promptly to the attorney's private office.

"Mr. Hogue is expecting you," she said.

Marks and Cooper were already there. Cooper's eyes were rimmed with red and his face was covered with stubble.

"Hello, Trent," the little broker said. "If I look a little done in, I didn't go to bed last night."

"What happened?" Trent asked.

"We played bridge all evening," Cooper took up the story. "Cullinane did not seem very happy but he didn't seem too depressed either. He acted just about like he always acts. But he misplayed two hands terribly and was erratic on his bids so I knew he had something on his mind. He didn't exactly watch the clock but he didn't forget about the time either. Once he attempted a joke about this being his last night on earth."

"Did Kuvar call him during the evening?" Trent questioned.

Cooper shook his head. "No one called him. About eleven o'clock he began to complain about a headache and he sent one of the waiters for some aspirin, which didn't seem to help any, for he complained more and more about his terrific headache. Then at midnight—"

"What happened?" Trent interrupted.

"Nothing. Except his headache disappeared."

"His headache disappeared?"

"Just like magic," Cooper answered. "He said he felt a lot better, and to tell the truth, he looked better, as if he had been relieved of some kind of a terrific strain. He got up from the bridge table and said he thought he'd go outside for a breath of fresh air."

"Did he go outside?" Trent asked.

"He did," Cooper grimly answered. "From the tenth floor window."

"Is that all?" Trent asked hollowly.

"Isn't that enough?" Cooper answered.

The silence in the room was broken by Hogue clearing his throat.

"That's enough for me," the patent attorney said. "I'm going to pay off and I'm going to do it today. Kuvar told me my time was up at midnight tonight, and by God! I believe him. You fellows can do what you damned well please, but I've seen enough to convince me. I'd rather be alive and broke than rich and dead."

A note of hysteria had crept into Hogue's voice.

Hogue still looked like a lizard, but in the eyes of a lizard the life of a lizard is valuable.

"That goes for me too," Marks said. "One suicide might be coincidence but when two suicides come along I'm running for cover. I'll have to scratch like the devil to raise the money that devil wants, but if it takes money to keep me alive, I'm going to spend it. I've only got two more days—"

"I have six," Cooper spoke. "I'm buying a batch of cats and dogs and I know it, but I'm going to spend the bucks. I'm convinced. What about you, Trent?"

"I have four days left," Big Mike Trent choked. "But—but he wants a hundred thousand from me—and I

don't have it. I wonder—" His eyes went to each of the three men.

"Don't look at me," Hogue said nervously. "I'd help you if I could but I'm going to have to spend every dollar I can raise to stay alive myself. Under the circumstances—"

"No need to apologize," Trent said. "I appreciate your situation. I didn't really expect any help. I was just kind of hoping— Well, good day, gentlemen."

The platinum blonde took one look at his face as he went out and gasped: "What on earth did the boss hit that guy with anyhow?"

HOGUE hadn't hit Trent with anything, but the sudden urgent realization that he had four days to produce a hundred thousand dollars had struck him a terrific blow. Hogue, Marks, and Cooper were going to pay off. Cullinane's death had showed them where they stood.

They could pay off. They had the money.

Mike Trent didn't. If he sold every share of stock he owned, every bond, he couldn't raise more than half the amount demanded of him. He wondered if he could borrow the money from his bank. And knew he couldn't. Banks would lend you a dollar for every two dollars worth of first class securities you could put up but the very thought of an unsecured loan for fifty thousand dollars would drive a hanker to the verge of apoplexy. Banks were out. That left Kuvar.

Maybe he could get Kuvar to come down. He would have to talk to Kuvar and find out.

He wanted to see Kuvar, at once.

He took the elevator down from Hogue's office, stopped in a restaurant and drank two cups of black coffee, then went to his own office.

The detective was waiting for him when he got there. He was an unobtrusive little man with a brown face, gray eyes that never seemed to miss a thing, and the quick darting motions of a bird.

"Name is Parker," he said abruptly. "What kind of trouble you in, Mr. Trent?"

"What makes you think I'm in trouble?" Trent questioned.

"People who send for me are always in trouble," the detective answered. "Tell me what's on your mind and I'll see if I can help you."

Trent told him the whole story, how Kuvar had first called on him, how he had accidentally learned from other members of the City Club that Kuvar was calling on them too, and how Beacon and Cullinane had died.

"Holy hell!" Parker gasped, when he had finished. "He knocks off two or three people, to show everybody that he means business, then he starts to collect! How much is he getting from these three men you mentioned?"

"Two hundred thousand from each of them."

"Six hundred thousand from men. That is, if they pay off!"

"They're paying. I just talked to them."

"How much is he getting from you?"

"He wants a hundred thousand."

The gray eyes looked Trent over thoughtfully. "And how much is he getting?"

"I don't know," Trent answered. "He wants more than I've got."

Sympathy showed on the detective's face. "Brother, you are on the spot!" he answered. "Well, I've got a partner. We'll both get on this right away and see what we can find out. It'll cost you sixty dollars a day . . ."

Trent grinned. He took his checkbook out of his desk and made out a

check for two hundred and forty dollars. The detective accepted it, glanced at the amount, then looked doubtfully at the man who was employing him.

"Four days is all I'll need you," Trent answered. "We'll either have this thing licked by then or I'll be dead."

Before the startled detective could answer, the telephone rang. As Trent picked up the receiver the hard metallic voice told him who was on the wire.

Kuvar was calling him.

"I want to see you," Trent said quickly. "Can you come up to my office, say within thirty minutes? I've got something I want to talk over with you."

"I'll be there," Kuvar answered.

Trent slipped the phone back into its cradle, looked at the detective.

"When this man leaves my office, I want you to trail him," he said. "Here's where you start earning your salary."

He passed a slip of paper across his desk.

"Here're my home and office phone numbers. Any time, day or night, that you get anything important, call me."

KUVAR was short and squat, with broad shoulders and long arms that looked as if they possessed tremendous strength. He had olive skin and hot brown eyes that looked over your shoulder and over your head and out the window and everywhere except at you.

"You want to talk to me about those stocks, Trent?" were his first words when he entered the office. "That's swell. You'll never regret making this investment. It's the smartest move you ever made in your life, and you can bet on that."

"Is that right?" Trent questioned.

"It sure is," Kuvar answered. "And you can bet on it."

"Did Beacon bet on it?" Trent said

in an abrupt voice.

"Huh?" For an instant the jumpy eyes were centered full on the engineer, then Kuvar looked quickly away. "Too bad about him, wasn't it?"

"It was more than too bad," Trent said. "It was murder."

"What?" Kuvar gasped. "Murder? The papers said—"

"I know what the papers said and I also know what happened. I was there when it happened."

Again Kuvar was startled into looking at the engineer. "Did you know Beacon?"

"Know him? He was one of my best friends."

"Well, what do you know! Then we've both had a loss. You've lost a friend and I've lost a customer. You know what?" Kuvar leaned confidently across Trent's desk. "You know, Beacon was going to buy a big block of stock from me. A hell of a big block of stock. Then he went and kicked the bucket. Just like that." Kuvar's long arms spread in an expressive shrug. "And I lost the sale. I have the damndest luck!"

Trent leaned back in his chair and looked at this man. From the way Kuvar talked, from the way he acted, Beacon's death had been a great loss to him.

Well, how do I expect him to act, Trent thought. Do I expect him to say, "Sure, I know Beacon was knocked off. I know all about it. I did it to scare you and a lot of other suckers into buying worthless stock from me. And you're going to get yours, just like Beacon got his, if you don't lay the cash right on the line."

Kuvar wasn't going to talk like that and Trent knew it. The talons had been carefully filed off the black hand. No obvious threats, nothing that the prosecuting attorney could construe as a

threat, no either or else, nothing like that. Just kill a couple of men who refused to buy. Then say, "Mister, buying these stocks is the smartest move you ever made in your life. No, sir. You'll never regret making this investment, not in your life. No, sir."

"What was that you said about Beacon being murdered?" Kuvar asked.

Again the evasive eyes were on Trent. There was curiosity in them, simulated curiosity, and somewhere in the black depths was mockery. But there was no fear. There was no indication of fear anywhere about Kuvar. He acted as if he knew he was perfectly safe.

Trent knew a challenge when he met one. "I don't really know anything about it," he answered. "One of the fellows at the club was telling me that police think they have uncovered something unusual about Beacon's death. What it was, I don't know. I understand they're trying to keep it quiet while they check on several angles."

The mockery grew in Kuvar's eyes. "Is that so?" he questioned. "Well, what do you know?"

THERE was still no sign of fear anywhere about the man. The suggestion that the police were checking on Beacon's death ought to have upset him, if only for an instant. But it didn't upset him. He just grinned and shrugged, and looked out the window.

"About those stocks you were interested in, Mr. Trent?" he said.

Trent took a deep breath. Well, this was it. After this, he would know. "I can only buy about fifty thousand dollars worth," he said.

Kuvar's black eyes showed incredulous surprise. "But you were interested in making a real investment!" he protested. "The figure, I believe, was an even hundred grand—"

"That was your figure," Trent said. "It wasn't mine. I said nothing about a hundred thousand."

"Well, maybe so," Kuvar admitted. "But just the same, that was the figure I had in mind for you. Anything under that—well, you just wouldn't want to make an investment under that figure, a big man like you."

Trent ignored the sales talk. "It isn't a question of what I want," he said. "It's a question of what I can do. Fifty thousand is as high as I can go."

"But Mr. Trent—"

"Don't you understand?" Trent said desperately. "I don't have that kind of money. I'm not a rich man. I've earned big fees, I've had an excellent income, but taxes have eaten up a big slice of it as fast as it came in. If I turn every resource I possess into cash I can't possibly raise more than fifty thousand. Wait a minute. Where are you going?"

Kuvar had risen from his chair. Shaking his head, he started toward the door.

"We're big operators," he said. "We can't afford to waste our time on stuff like this. Sorry, Trent, but I thought you were interested in really making a worthwhile investment."

"But I don't have it," Trent protested.

"Then get it!" Kuvar said.

He went out the door without looking back.

His last words, "Then get it!" kept ringing in Mike Trent's ears long after he was gone.

There was no questioning the meaning of those words. They said, "Either or else," and they said it unmistakably. And they jarred any last lingering hope that the death of Beacon and Cullinane had actually been suicide—and Kuvar's high pressure salesmanship mere coincidence—completely out of Trent's mind.

Kuvar wasn't fooling. He wasn't talking just to hear himself talk. He meant every word he said.

He was prepared to hack up his words with action.

"How in the name of all that's holy did he kill those two men?" Trent muttered.

Ever since Beacon had died, that one thought had been going round and round in his mind.

How do they do it?

TRENT had seen Beacon die. The white haired financier had simply taken a gun out of his pocket and pressed it against his forehead and pulled the trigger. That was all there was to it.

What mad and monstrous force had been used to compel a sane and rational man—a man who liked living as much as anyone else—to kill himself?

Trent writhed in his chair. Then he got up out of the chair and started to pace, back and forth, back and forth, across his office, trying to think of a possible solution to his problem. There wasn't any solution. Normal men—and Beacon and Cullinane had certainly been normal—simply didn't kill themselves. But they had done it? They had been forced to do it. *How?*

Seicide was not too unusual an event. Men suffering from ill health sometimes killed themselves. A man with an incurable cancer, knowing that he was going to live for a few more months in increasing pain and knowing what the end was certain to be, might hasten that end and cut short the suffering. A man who had lost his fortune might turn on the gas and go to sleep. A man whose wife had been unfaithful to him might go like that.

Beacon had been in excellent health, rich, and his wife had died years before. He had a daughter whom he adored.

There was simply no reason for Beacon to kill himself.

Yet he had done just that.

What monstrous force could reach into a man's mind and order him to kill himself with such compelling intensity that he had no choice except to obey?

Could it reach into his office and tell him to leap from the window—as Cullinane had leaped?

Down below that window was a drop of twenty stories—to Wahash Avenue, and the elevated tracks, and the pavement if he passed between the tracks and the building.

Could he be compelled to open that window wide enough to allow passage of his body and then to hurl himself outward from the ledge?

The thought sent cold shudders over his body. He hastily lit a cigarette.

His nerves felt like they were going to run screaming out of the top of his skull.

How in the hell had Kuvar, or someone working with Kuvar, forced Beacon and Cullinane to kill themselves?

No physical pressure of any kind whatsoever had been employed in killing the two men. Trent could swear to this.

Then what kind of pressure had been used?

Or was it witchcraft, the diabolical black arts of the ancient magicians?

Witchcraft, in Chicago, in the twentieth century? Witchcraft in a world of concrete and steel, of motor cars and airplanes and hurtling atoms? Witchcraft in an age that did not believe in witches, in an era that thought in terms of force and counterforce, of action and reaction, in a century that thought in the cold hard laws of science?

TRENT shook his head. He forced the thoughts of witchcraft out of his mind. To his way of thinking, that was

all nonsense, all misdirected thinking on the part of a race that had not yet learned the laws of cause and effect. Witchcraft could accomplish certain results all right, if you believed in it. Modern psychology had pretty clearly established the way witchcraft worked. You had to believe in it for it to have an effect. Trent didn't believe in it.

Beacon and Cullinane hadn't believed in something either, and they were dead as hell.

And Kuvar had said, "Then get it!" in a tone which indicated not only that he knew what he was talking about but meant what he said.

There was a rap on his office door.

Trent almost jumped out of his skin.

Rose, his little brunette secretary, entered from the reception room.

"Gee, Mr. Trent," she said, seeing the fright on his face. "I didn't mean to scare you."

"You didn't scare me, Rose. I was just in the middle of a session of scaring myself."

He tried to grin and the effort left his face twisted out of line.

"What have you got on your mind?"

"You had two calls before you came in," the girl answered. "The first was from the police. They said you were supposed to be down at the civil courts building at three o'clock for an inquest."

Trent nodded. He had been expecting this call. "What was the other one?" he asked.

"It was from Miss Beacon. She wanted you to call her."

"Okay. Thanks."

The girl looked thoughtfully at him. "Do you need an aspirin or something, Mr. Trent?" she asked.

"I need the something," he answered. "That will be all for now, Rose."

After she had left the room, he called Pat Beacon.

"Yes, Mike, I'd like for you to come out. I've been going through daddy's desk, and I ran into some very strange things."

"What sort of things?" he asked.

There was a little catch in her voice. "Several newspaper clippings about—about men k—killing themselves."

"K—?" He caught himself. "I'm tied up this afternoon, Pat. Will eight tonight be all right?"

"Y—yes, Mike."

Beacon had collected clippings on suicides! And then he had killed himself. Was there a connection between the clippings and his death?

THE inquest was a dull formality. It established the legal fact Samuel Beacon had met his death "as the result of a self-inflicted gun shot wound."

Marks, Cooper, Hogue, and Trent all testified to that fact. So did the lieutenant from the homicide department who had been called to investigate Beacon's death.

So far as the law was concerned, the case of Samuel Beacon was closed.

Officially, his death was down in the books as suicide.

HERE are the clippings I wanted you to see," Patricia Beacon said.

They were in the library of the big, richly furnished Lake Forest house that Samuel Beacon had built for his bride thirty years before. The house was quiet now, and filled with the cloying fragrance of flowers that friends and relatives had sent for the private funeral that would be held at ten o'clock the next day.

Pat Beacon, dressed all in black, was sitting wan and hollow-eyed beside Trent at the big mahogany desk.

"I found them in a locked drawer of the desk," she said.

There were five of the clippings.

The first was the story of a truck driver in Evanston who had, without apparent motive, suddenly stopped his truck and taking a razor blade that had been used to cut ice off the windshield, quietly cut his throat with it.

The second was about a shoe salesman who had turned on the gas and forgot to turn it off. His wife had found him when she returned from the movies. "—in excellent health. No reason could be advanced for the death."

The third was about a garage mechanic who had used a souvenir world war pistol to blow his brains out.

The fourth was about a man named Wapping, who had lived in Cicero. Wapping had been a basement inventor. He had tied one wire of a three-phase power line around his right leg, the second wire around his left arm, the third wire around his neck, then had closed the switch.

The police had had to call in electricians to disconnect the current before the body could be removed.

As an estate, Wapping had left eighty-seven patents—all of them worthless—several patent applications, and a basement full of mad electrical equipment that the police could not make heads or tails of.

The fifth clipping was also about Wapping. The humane society had had him arrested on charges of mistreatment, wanton cruelty, and killing of animals.

The judge had fined him five hundred dollars on that charge, then had stayed sentence on the condition that he abandon his experiments with cats and dogs.

Four dead men, some dead cats, some dead dogs.

Trent looked up at the girl sitting quietly beside the desk.

"What do you think?" he asked.

"Tell me one thing," she answered.

"Did my father kill himself?"

Trent took a split second to make up his mind.

"I saw him do it," he answered.

The pain on her face hurt him to the bottom of his heart.

"But I think he was murdered," he added.

There is, in the normal human mind, a vast difference between suicide and murder, especially when the person who has died is a relative or close friend. Both are bad but suicide leaves a hopeless, helpless feeling behind it. Murder leaves anger. Suicide is hopeless. Your friend is dead and nothing can be done. Nothing can be done about murder either, except to see that the murderer pays the penalty of the law for his crime.

Her face lightened. The pain and the hurt did not go out of it, but a new emotion was added to them—anger.

"I'll tell you what I know," Trent said. "I didn't want to tell you this now. I wanted to take time and tell you gradually. Besides, and here is the bitter truth, I don't know anything for certain. I'm dealing in theory, nothing but theory. I have only one fact: a motive, a strong motive, for murder, especially for murder that can't be detected. And that motive is greed. I can see a means, a method, and a motive. The means is death, the method is extortion, and the motive is greed. As a result of the death of your father and of Richard Cullinane, somebody will be able to extort from the wealthy people of Chicago more millions of dollars than I can count. So here is what I know."

HE TOLD her the whole story, leaving out only one fact: that he was on Kuvar's list.

"You should have told me this before," she said.

"But I didn't—and I still don't—"

know anything for certain. In something as serious as this, you can't jump in with accusations until you know what you're talking about."

"I know," she said. "I'm absolutely certain of it. Daddy was not the sort of person who would kill himself."

In the face of her strong intuition, he was silent.

"And," she continued. "I think these clippings prove that daddy had some idea of what was going on. I think he not only knew that a threat was being made on his life but had some inkling of the form the threat would take."

"That's the conclusion I've reached," Trent said. "He knew at least something. The fact that he collected these clippings proves that he was suspicious. But what did he know or what did he suspect? Did you find anything else?"

"One other thing," the girl answered. She picked up a heavy cloth-bound volume lying on the desk. "The clippings were in this book. I've marked the place where I found them. And on the same page is a paragraph that my father must have underlined."

She handed the book to him.

The title was *Why Men Die*.

It was written by Roger J. Gleason, M.D., whom Trent vaguely recalled as a youthful medical genius whose theories regarding the operation of the human body and the human mind were considered by the more orthodox members of the medical profession as being on the daring side.

He tried to remember what he knew about the author. It wasn't much. He had read a book review of one of his earlier works in which Gleason had hinted at the existence of what he called a death instinct in all men.

He read the underlined section.

"Life is a balance between two forces—the will to live and the will to die. It is a fight between two instincts—the in-

stinct urging us toward self-preservation and the instinct urging us toward self-destruction. All of us have in us the seed of our own destruction, which psychiatrists have called the death instinct, the death wish, or the will to die.

"Under normal circumstances, the will to live is much stronger than the will to die, with the result that we continue to live. But under adversity, bad luck, long illnesses, business reverses, and often simply as a result of old age, the will to live loses its strength, the will to die becomes dominant. The result is sometimes suicide, sometimes death from what seems to be natural causes, and sometimes death from one of those strange accidents that psychiatrists have begun strongly to suspect are not accidental at all but are expressions of the emergence of the subconscious will to self-destruction already lurking deep within us.

"When the will to live goes out, the man does not linger long afterward. When the balance between the instinct of self-preservation and the instinct of self-destruction is tipped toward the will to die—even though consciously the individual may have no knowledge of what has happened—the individual dies. This seems to be one of the fundamental psychic laws governing human existence."

A wind that had blown over miles of glacial ice seemed to blow up Trent's back when he finished reading the paragraphs Beacon had underlined.

"When the will to live goes out, the man does not linger long afterward."

This was a doctor talking, a psychiatrist; and he was digging deep into that greatest of all mysteries, the human mind. In his words Mike Trent got a glimpse of the wheels turning in the human machine. The sight of those wheels scared him. All over his body his flesh crawled.

WHY had Beacon underlined those words? Why had he collected those five clippings and inserted them in this particular book at this particular place? Had he known that he was in danger of death? And was the clue to the way he had met death here in these five clippings and in this underlined passage in a book titled *Why Men Die*?

If so, what was the clue?

A truck driver, a shoe salesman, a garage mechanic, and a basement inventor had committed suicide. Beacon had committed suicide? Or had all five men been murdered?

Why?

There was a motive for Beacon's murder, but a truck driver, a shoe salesman, a garage mechanic, and a penniless crank—these people obviously had not been rich. You might extort a few hundred dollars from the average truck driver, but certainly no more.

Kuvar wasn't interested in hundreds of dollars. He was interested in hundreds of thousands. He had said so himself. "We're big operators. We can't afford to waste our time on fifty thousand dollars."

Extortion was out so far as the deaths of the four men were concerned. They just hadn't had enough money to make them possible victims of Kuvar. But they had committed suicide and Beacon had been sufficiently interested in them to save clippings concerning the way they had died.

There must be some connection.

What was it?

Trent looked at the girl sitting quietly beside the desk. "This is the most astonishing thing I ever heard of," he said. "Have you got any ideas?"

"I don't know anything definite, Mike. But these clippings and the marked lines in the book seemed to have some meaning."

"I'll say they have meaning! But

what do you think it is?"

She shook her head, then turned in her chair as a light rap sounded on the door. "Come in," she said.

One of the maids entered. She was carrying a portable telephone set.

"You're wanted on the phone, Mr. Trent. Will you take it in here?"

"If you please, Anna," he answered.

Parker was on the wire.

"I called your apartment house and they told me to call this number," the detective said.

"That's right," Trent said. "Have you got anything on Kuvar?"

"Not much," Parker answered.

"When he left your office, he called on a patent attorney by the name of Hogue. At least that was the name on the door. He stayed in there about twenty minutes. When he came out he was grinning from ear to ear. He rushed straight over to the Grand National Bank, where he made a deposit. From the bank he went to an automobile sales agency where he bought a brand-new Lincoln convertible coupe. Paid cash and drove it right off the floor. And that is where I lost him.

"You see," the detective continued, "down in the Loop, you do your trailing on foot. I didn't know he was going to buy that car and I didn't have a chance to get my own jalopie from the parking lot and follow him. So I lost him. But I went down to police headquarters and had a friend of mine down there do some looking and we dug up some dope that may interest you."

"Like what?"

"Kuvar is an ex-con," Parker answered. "He's done two stretches; one, in Atlanta, federal charge, use of the mail to defraud, three years; the second in Joliet, two years, extortion. He hasn't been in the jug for four years now, but the cops had him up for questioning

a little less than a year ago on the complaint of some nut out in Cicero that Kuvar had tried to steal an invention. It was no dice on that complaint. The cops couldn't understand what the guy had said he had invented so they couldn't charge Kuvar with trying to steal it. But just the same, he's one tough cookie, Mr. Trent. I wouldn't try to crowd in on him too much."

"I know he's tough," Trent answered. "What did you say that inventor's name was?"

"I didn't say," Parker answered.

"It wasn't Wapping, was it?"

"How did you know?" the detective complained. "Are you holding out on me?"

TRENT turned startled eyes toward Pat Beacon. "We've got a connection between Kuvar and Wapping!" he said.

"What's that?" Parker asked, over the phone.

"Nothing," Trent answered. "I wasn't talking to you."

"All right. But what do you want me to do now? Do you want me to go out to Kuvar's apartment—I got his address from the automobile agency—and hang around until he turns up, or do you want me to pick him up there in the morning?"

"Use your own judgment," Trent said. "And call me at my office in the morning."

"Okay," Parker answered, as Trent hung up. The detective sounded a little exasperated. He had been hoping for instructions to knock off for the evening.

"Kuvar knew Wapping," Trent repeated, speaking to the girl.

Her mind was elsewhere. "I'm sorry. I was thinking about something else. Who was that you were talking to and what were you saying?"

"I was talking to a private detective I've hired to trail this salesman who is peddling worthless stocks," Trent answered. "The detective told me that Kuvar had tried to steal an invention from Wapping and that the inventor had complained to the police. This proves that Kuvar knew one of the men who committed suicide."

"But what does that mean?" she asked.

He groaned. "I'm damned if I know!" he answered. "But I'm going to call Hogue, Marks, and Cooper and see if they know anything. I have a hunch the fact that Kuvar knew at least one of the men named in the hatch of clippings your father collected is damped important, if we can only get the whole story."

He tried Marks first and was told that the chain drug store man had left town on business. At his home, they didn't know exactly where he had gone or when he would return and they obviously didn't relish answering questions. A maid answered the phone at Cooper's residence. Mr. and Mrs. Cooper were out for the evening. Hogue he finally located at the City Club. He told the whole story to the patent attorney.

"I wish I had known this at noon today," Hogue said, regret in his voice. "It would have saved me a lot of money. No, it wouldn't either. I would have paid off anyhow. You can't afford to take chances with something like this."

"Can you suggest anything for me to do? After all, I'm kind of in a spot here."

"I'm sorry, but I can't suggest a thing right now," Hogue answered. "You say Beacon had collected several clippings about men who had committed suicide?"

"That's right."

"And that this hired private detective has learned that Kuvar knew at

least one of these men, this fellow Wapping, or whatever his name was?"

"Right again."

"Well, if this isn't the damndest mystery I ever heard of!" Hogue exclaimed. "I want you to keep me closely informed of everything that develops. If this works out just right, I might be able to get my money back."

The hell with your money, Trent thought, sliding the phone back on its cradle. It's my neck I'm thinking about!

He turned to Pat Beacon. "I've got an idea," he said. "I'm going out to Cicero and find the place where this inventor lived. I want to talk to his neighbors. They may know something."

"That's a good idea," she said. "I'll go with you."

He didn't much like the idea, but she was determined.

"There's no reason why I shouldn't go," she insisted. "And anyhow I want to talk to you. I've got something I want to ask you and something I want to tell you."

He didn't like the sombre sound of her voice and he liked the whiteness of her face even less.

"What do you want to ask me, kitten?"

She faced him without smiling.

"Is this salesman, this Kuvar, is he trying to sell you some of his stocks?"

It was the one fact he had kept from her. She read the answer on his face.

How much the almost imperceptible nod of his head meant to her only she knew. For she was head over heels in love with this big efficiency engineer. And now she knew that he was facing the same menace that her father had faced.

The pulse pounded in her throat.

"I'm sorry, kitten, but that's the way it is," Trent said. "But don't worry. After midnight tonight, I've got three days left. And three days is a long

time, if I use them right. In three days we can have this thing licked and forgotten—well, licked, anyhow," he ended.

"You've got three days," she said. "And I've got two weeks."

It took a second for the meaning of her words to register. Then he had her by the shoulders and was shaking her.

"Pat! Pat, kitten—"

She nodded. "Kuvar called me this morning," she said.

"Kuvar called you!" he whispered. "Dear God!"

The words were a prayer.

WAPPING, according to the newspaper clipping, had lived at 1613 Aster Place, in Cicero. Aster Place was a street of small, one-story frame houses built so closely together that you could stick your head out of your kitchen window and eat your neighbor's meat balls and spaghetti right out of his place without bothering to reach for them. Although it was after eleven o'clock when Trent and Pat Beacon arrived at Aster Place, kids were still yipping in the street, a juke box was blaring in the corner tavern, and barefooted men and women were sitting on their front porches and gossiping in the summer night.

Lights were burning in 1613 but no one was sitting on the front porch. Trent helped Pat out of the car and they went up the steps. Inside the house a radio was softly playing waltz music being broadcast from the Trionon. Trent rapped on the door. The radio was quickly turned off and the door was opened the fraction of an inch.

"Who is it?" a woman's voice demanded.

"My name is Trent," the engineer answered.

"Don't know you," came the quick reply.

"I know you don't know me but I want to talk to you."

There was silence inside the house. He knew he and Pat were being closely inspected. From the neighboring porch, the gabble of conversation had ceased, indicating that the neighbors were inspecting them too.

What the woman saw was probably not satisfactory to her but it was at least not too suspicious. If Trent had been alone she would have slammed the door instantly but a man and a woman together could not be too dangerous.

"What want?" she asked.

"I want to talk to you about a man named Wapping—"

"Dead," said the woman.

Bang went the door.

Trent stepped to the open front window. The screen was in place but the window was up and he knew the woman could hear him. She was just inside the door listening to see if he had gone away.

"I don't want you to feel you are wasting your time," he said. He took his billfold out of his pocket.

"How much?" a voice came from inside the house.

"Twenty dollars," he softly answered.

"Come in," was the quick response.

But even with the money safely tucked away, the woman did not want to talk very much, and especially about Wapping.

"He rent the basement from me, three four years, he rent it," she said. "Much about him, I do not know. He keep to himself. He not come up here and neither me, my husband, or the bambinos go down there."

"What sort of chap was he?" Trent questioned.

"Crazy!" the woman promptly answered.

"What kind of work did he do down in the basement?"

THE woman rolled her eyes and hastily crossed herself. "The work of the devil, mister. Sometimes I hear loud booms down there, sometimes I hear sharp spitting sounds. Sometimes I hear him swearing down there. Oh, the things he said! Then he started bringing in the kitties."

"What did he do with the cats?" Trent asked.

"I not know that. Sometimes maybe I see him carrying a kitty into the basement. Then maybe two three days later I find the kitty dead, maybe in the back alley, maybe in the garbage barrel, wherever he happened to throw it."

"He killed the cats, then, you're certain of that?"

She nodded vigorously. "You bet, mister, you bet."

"How did he kill them?" Trent questioned.

"Mister, I told you I not go down in the basement. So I do not know how he killed the poor little kitties."

"Um," Trent said. He could see that this woman actually knew little or nothing about Wapping, and even less about the kind of work the little inventor had been doing. She had been scared of him, that much was certain, but her fear was more the result of superstition than of anything Wapping had done. The inventor had kept to himself and he had told his landlady nothing. Trent had begun to suspect his questions were fruitless. He tried another tack.

"What kind of equipment did Wapping have down in your basement?" he asked.

She shrugged. "That I do not know. I do not go down there. Sometimes the delivery wagons bring stuff but it was always wrapped up so I could not tell what it was."

"I see," Trent said. "What happened to the equipment when he—ah—died?"

She stared at him in astonishment. "Nothing happened to it."

"What did you do with it?" he repeated.

"I didn't do anything with it," she answered.

"Is it—is it still down there?"

"I'll say it is! Mister, I would not go down there and touch any of that stuff, no not for a million dollars."

Trent hid his sudden elation under an impassive countenance.

"Would you mind if we went down and looked around?" he asked.

She gasped in horrified amazement. "Mister, he died down there!"

Trent shrugged. "I'm not afraid."

"But—but—" The thought of such daring shocked her to the bottom of her soul. To her superstitious mind, the place where a man had killed himself was damned forever. Not only that, but it was probably haunted.

"Mister, if we could have sold this house, we would have done it, because that basement it is not a place for honest people to go. We have tried to sell, ten, twenty times, but everybody around here knows what happened down there and nobody will buy. That is why we have stayed here, mister."

She was trying to express the horror she felt about a place where a man had committed suicide. She was honestly trying to warn this tall man and this pale girl to stay away from a place that she felt was haunted.

"You can't go down there, mister. If you died down there, the sin would be on my soul."

"Of course, I intended to pay you," Trent answered. He opened his billfold again, took out a twenty dollar bill.

She took it with reluctance, but she took it. She led them back through the house, unlocked the back basement door.

"The light switch is right there," she

said, pointing. "But, mister . . ." her voice was a wail. "I wouldn't go down there and take this lady down there with me, not for a million dollars."

With her scared voice whispering in their ears, Mike Trent and Pat Beacon went down the basement stairs.

THE place stank. It smelled of mice and rats and cats and dogs. The basement hadn't been cleaned in years and the musty air rose in little puffs at each step from the thick mantle of dust that covered everything. Whatever else he may have been, Wapping had not been a tidy housekeeper and his superstitious landlady had refused to enter the basement after he died there. A cot with rumpled bed clothing stood against one wall. A two-burner gas stove stood on a table. The sink was still covered with dirty dishes. Wapping had lived in a pig-sty and he apparently hadn't cared.

There were two things he had cared about. The basement was full of them. Books and gadgets. Home-made shelves lined with books covered two walls. Physics, chemistry, geology, botany, all standard texts. Two whole shelves were filled with books and pamphlets on electronics and electronic engineering. The books were well-thumbed, the margins covered with penciled comments written in a crabbed, almost unreadable script.

Trent stared in amazement at the books on electronics. This was one of his fields. If Wapping had made the study of electronics indicated by the books, he must have been as well-versed in this new field as the best engineers.

Another shelf was filled with books on physiology, medical texts on the anatomy of the human body, and studies of the mechanism of the human brain. There were dozens of books and

extracts from medical journals on the subject of the brain, more than most medical schools required of their students for graduation. Trent's amazement grew.

There were other books too, the books of Charles Fort, Ouspenski's *Tertium Organum*, Reimann's geometry, Dunne's *Serial Universe*, Jean's *Mysterious Universe*, others of which Trent had never heard.

The books clearly revealed one fact: Wapping might have been a penniless crackpot, but he had had an original inquiring mind and he had been a seeker after truth, the sort of man the efficiency engineer would have enjoyed knowing. Living here in this dirty basement, probably never having enough to eat, Wapping must have spent every penny he could raise on books. And on gadgets.

If the books Wapping had collected were amazing, the gadgets were astounding. One of them was a radio transmitter and receiver designed to operate in army tanks. It had been completely dismantled, and the tubes, coils, and condensers apparently used in something else. What had Wapping used those parts for?

Whatever he had used them for, that gadget was gone. There was a vacant space on a big work bench where it had set, but it was gone. Dangling power input wires showed where it had been disconnected.

Was the missing gadget what Kuvar had tried to steal?

Trent did not know, but he had grim suspicions. Something was certainly missing. Had Kuvar returned after Wapping had died and completed his theft?

There was no way of knowing what had happened, but something was gone.

There was one other gadget that Trent looked at once, then quickly

looked away. A comfortable chair with three dangling wires dropping down from the ceiling and a throw switch within reach of the right hand. It was an improvised death chair and it was certainly the last gadget Wapping had ever designed or used.

Trent was not looking for a death chair. He was looking for a death weapon, a method of forcing men to commit suicide.

How would he know such a weapon if he found it?

What would it look like?

Was it here, in the basement, before his eyes, now?

THERE were more gadgets in the basement than he could examine in weeks. Any one of them might be what he was looking for. He didn't have weeks to spend examining strange combinations of radio tubes hooked on to bird-cage aerials, tracing circuits and determining the function of a piece of apparatus.

With Pat trying to help him, he began a careful search of the basement.

On the concrete floor under the workbench, where it had apparently fallen after being carelessly pushed off the bench, he found a small black notebook.

On the first page, in the same crahbed writing he had found on the margins of the books, were the words: *Notes on the Suppressor.*

Basic Premise: Most medical authorities agree. Wapping had written, that the human brain is an electro-chemical organism and that it operates by the power of minute electrical currents that flow along the nerve tissue. Authorities also agree that certain functions are carried on in definite areas.

Problem: To suppress, by means of electro-magnetic radio waves, the function of all or of part of the brain tissue.

Trent's heart leaped up into his

mouth when he read the words the dead inventor had written. He hastily turned the pages. Circuit diagrams followed, aerial designs, transmitter designs, coil and condenser values, strength and kind of current input, all the data that an engineer would need to assemble the instrument. Three whole pages were devoted to a description "of the special metal to be used in the aerial. Only this metal—and no other—will receive and concentrate the radiations from the suppressor."

There was even a diagram of how wires the sizes of human hair could be made from this metal and inserted in the lining of coats without the knowledge of the owner.

Trent closed the book with a snap, put it in his pocket. His face was as grim as death itself.

"Come on," he said to the girl. "We've got what we want and we're getting out of here."

THE landlady was waiting for them at the head of the basement stairs. She was apparently surprised to see them emerge alive. To her hasty questions, Trent shook his head.

"Thank you for letting us look over the basement. I'll see you again in a day or two."

His five passenger coupe was at the curb where he had parked it. He helped Pat into it, got in himself. The street was almost deserted now. The playing kids had all been called to bed and most of the residents had left their front porches. Only the juke box in the corner tavern was still playing its raucous melodies.

Trent started the motor, pulled the car away from the curb.

"We've got Kuvar," he said. "We've got him dead to rights. We don't need to be afraid of him any longer. We know exactly what he is doing and how

he is doing it. We know how to stop him cold."

In his rear view mirror he saw a car that had been parked in front of the tavern pull away from the curb. Vaguely he recognized that it was a brand-new Lincoln sport coupe but before he had time to remember where he had heard of a Lincoln sport coupe before, he heard a noise in the back seat of his own car.

A man who had been squatting on the floorboards sat up.

"Just drive where I tell you, buddy," the man in the back seat said. "And don't try to argue with me because this is a gun I've got here in my hand."

Light from a street light was reflected from the short, ugly barrel of a pistol pointing over the top of the seat.

"Turn right at the next corner," the man with the gun said.

The lights of the Lincoln coupe followed them as they turned the corner. Not until then did Trent remember that Parker had told him that Kuvar had bought a brand-new Lincoln.

"HONK twice," the man with the gun said. "They'll open the door for us."

They were at the alley entrance of a large rambling one-story garage, apparently unused, somewhere in south Chicago. Trent pushed hard on the horn button, hoping that some prowling car might hear them and investigate. It was a vain hope.

After a wait of a few minutes, a peephole opened in the garage door and somebody looked out.

"Open up, Pinky," the man in the back seat shouted.

In response to his order, the garage doors swung open.

"Roll her in, buddy," Trent was ordered. As he eased the car into the garage, the lights of the Lincoln swung

into the alley behind them and the big coupe purred into the garage with them.

Trent stopped the car beside a small truck that he remembered having seen somewhere. On top of the truck was a collapsible aerial similar to the equipment used by power company inspectors using radio to search for current leaks.

Trent started to get out of the car.

"Just sit still until you're told to move," the man in the back seat said. "I'll tell you when I want you to get out. Got 'em covered, Pinky?"

"Yes," came an answer from the man who had opened the garage doors for them.

"Okay, you can get down," they were told. "But you want to remember that Pinky's got you covered with a tommy-gun, in case you're thinking of starting any arguments."

"You're certainly taking no chances," Trent said.

"Can't afford to take chances in this business," was the answer. "Go on. Get out of the car. And keep your hands up while you're doing it. No, habe, you get out on the same side he does."

This was addressed to Pat Beacon.

Silently they climbed out of the car. While Pinky covered them with the sub-machine gun, the man who had been in the back seat swiftly and expertly searched them. He took Pat's purse, Trent's hillfold, Trent's keys, and the little black book that the engineer had found in Wapping's basement laboratory. Then he turned to the Lincoln.

"Okay, boss," he said. "They're clean."

Kuvar climbed out from behind the wheel of the expensive coupe.

"So you got inquisitive?" he said to Trent.

"I don't know what you're talking

about," the engineer answered. A thousand questions were exploding in his mind. How had Kuvar known where they were? What was Kuvar going to do with them? What were they going to do? Should he try to stall, try to play innocent, try to pretend he knew nothing, or should he act as if he knew everything and try to bluff? Most of all, how had Kuvar known where they were?

"What did you find in that basement?" Kuvar questioned.

"I didn't find anything," Trent answered.

"No? What were you looking for?"

"I don't know that, either."

"Why did you go there?"

"Because we found a clipping about Wapping in Beacon's desk," Trent answered promptly.

"Damn him!" Kuvar snarled. "I still want to know how he figured out so much about—" Then he realized he was saying too much.

"He apparently didn't figure out enough to act on his information," Trent said. Then he realized that he, too, had said too much.

Lights glinted in Kuvar's black eyes. "No, he didn't," he said. "But maybe you've done what he couldn't do?"

Trent was silent.

"Have you?" Kuvar continued.

"Have I what?"

"Have you figured out how Beacon died?" the salesman bluntly asked.

TRENT made up his mind in split seconds. He stared at Kuvar in what he hoped was confused amazement. "How Beacon died?" he questioned. "That's an odd question. Beacon shot himself. I saw him do it."

Kuvar's black eyes regarded Trent thoughtfully. "You're a poor liar," he said at last.

"You can say that when you've got

somebody pointing a machine gun at me!"

"Hell, this is no time to get mad because I call you a liar," Kuvar sounded disgusted. "Do you know how Beacon died?"

"I told—"

"And I called you a liar. Come clean, buddy."

"I don't know what you're talking about," Trent answered.

"Okay," Kuvar said. The black eyes fastened themselves on Pat Beacon. "What about you?" Kuvar said. "Do you know how your old man died?"

"Y—yes!" Pat choked over the word.

"How?" Kuvar challenged.

"You killed him," the girl said.

For a moment, even Kuvar's self-possession was shaken. Her calm accusation hit him a jolt that made him shiver somewhere deep down inside.

"You've got the guts to stand there and tell me that?" he said.

"Certainly," Pat answered.

Trent swore under his breath. "Keep still, kitten," he whispered.

"Hell, she didn't tell me anything I didn't know," Kuvar said.

"Then what the hell were you asking all those questions for?" Trent exploded.

"I was trying to find out how much you knew," the salesman answered.

"Neither of us actually know anything," Trent explained. "We have been doing a lot of wild guessing. Maybe some of the time we were guessing close to the truth, but unfortunately we haven't got a single solitary fact that would stand up in court, and that's the truth."

He tried to keep all signs of desperation out of his voice. He tried to speak calmly and reasonably, in a desperate effort to reassure Kuvar. There was danger here, more danger than Trent

even liked to think about. If he could convince Kuvar that while they might have guessed right, they still didn't have any evidence that the police could use against him, Kuvar might not—might not kill them immediately. Kuvar was not the type to let dangerous enemies stay alive if he could help it.

"Hell, I know you don't have any evidence," Kuvar said. "We're in the clear so far as the law is concerned. They couldn't hold us fifteen minutes in the Bridewell on what you know."

"Then what are you worried about?" Trent asked.

"I've got the sweetest, surest, safest way that ever was invented to clean up more millions than I can count," Kuvar answered. "I don't want my racket busted up. That's what I'm worried about, buddy, that's what I'm worried about. Maybe you can't turn the cops loose on me, but you sure know enough to tell my suckers how they can run out from under me. And just when I got every millionaire in Chicago shaking in his boots and ready to say it with certified checks! That's what's worrying me, buddy."

There was the catch. Kuvar's racket depended on extortion, which in turn depended on threat. In Wapping's basement laboratory Trent had learned how to stop Kuvar's suicide racket, how to stop it cold.

Trent shrugged. "If you think that, all right," he said. "But I wish to hell you would let me in on this big secret I'm supposed to know."

"Nuts!" Kuvar answered. He turned to his two confederates. "Tie 'em up," he said.

WHILE Pinky covered them with the sub-machine gun, the thug who had hidden in Trent's car did an excellent job of lashing their hands behind their backs. He used ordinary 22

gauge copper wire to do the trick, taking a spool of the wire from the small truck parked in the garage.

"I suppose you know you're getting yourself into trouble now," Trent said to Kuvar who stood watching. "Kidnaping is serious business in this town. So is illegal restraints—"

"So is a million dollars," Kuvar said. He acted as if he knew exactly what he was doing but there was an air of uncertainty about him as if he was assailed by secret doubts. He chewed nervously on the stump of the dead cigar he had in his mouth and most of the time he seemed to be listening for some sound that never came.

"Put 'em in there," he said, when their hands were securely tied. "Tie their feet. And you, Pinky, you stay at that door and see that they don't get out."

His voice grew as hard as steel. "If you let them get away, I wouldn't want to be in your shoes."

"They won't get away," Pinky said. He was a well-dressed medium-sized man with a brown face and a tiny little mustache. There was an air of apprehension about him, of nervous alertness, but he handled the machine gun with a sure hand.

"In there," he said, indicating a small room toward the front of the garage.

The place had been used as a store-room of some kind in the days when the garage was new. There was only one door and no windows. There wasn't even a chair to sit on.

"Sit on the floor," Pinky told them. "Come on, Art. Tie their feet."

Art was an expert with the copper wire. He wrapped strand after strand around their legs.

Pinky turned off the lights, slammed the door. Tied hand and foot, they were left in the black room. Outside they heard Pinky pull up a chair and

prop it against the wall.

"At least they didn't gag us," Trent whispered bitterly.

"Don't remind them of it," Pat answered. "Or they'll come in and do it now."

In the next room a telephone rang stridently. Feet pounded across a hoard floor as someone hurried to answer it. Then they heard Kuvar speaking.

"Is that you, boss? Yeah, we got both of them. Yes, the girl too. Damn it, we had to bring her along. She was with him. What else could we do?"

Trent scarcely dared to breathe as he listened. For the first time, he realized there was someone back of Kuvar, someone who gave Kuvar orders. And Kuvar's boss was chewing him plenty for kidnaping Pat Beacon.

"I know she's important people," Trent heard the exasperated salesman protest. "But damn it, there just wasn't anything else to do. And anyhow, she is as dangerous as he is. She knows everything he knows and you can bet your life on it. We had to bring her along no matter if all the cops in Chicago are looking for her tomorrow. Yes. Yes. The question is what are we gonna do."

Silence, while Kuvar listened.

"Boss, I tell you this thing is hot," the salesman protested. "It's hotter than the hinges of hell. I tried to tell you that when you told me to pick this engineer up. If he disappears, somebody is going to start asking questions. If they fish him out of the lake, there will be plenty of questions asked. The same goes for the girl. We can't hold 'em, we can't turn 'em loose, and we can't hump 'em off. Huh? You figure it out. You've been doing all the figuring around this outfit so you dream up something on this one. But fast, boss. We gotta do something right away. We can't sit around here on our tails and

hold these two forever. What's that? No, they won't get away, not on me. All right, I'll see you in the morning. Goodbye."

THERE was a click as the receiver went back on the hook. Then they could hear Kuvar swearing viciously to himself.

"I see what was worrying Kuvar," Trent whispered. "He's scared to hold us, scared to turn us loose, and scared to knock us off. The fact that he doesn't know what to do with us is the big reason we're alive right now."

In Chicago, murder happened every day. Murder was an easy out for Kuvar. It would be so simple to dump them in the lake with a sack of cement tied to their feet. But would it be safe? Kuvar was trying to protect his own neck. If a rich Lake Forest girl and a well-known efficiency engineer disappeared, especially just after the girl's father and a friend had just committed suicide, the police would be certain to put two and two together and start asking questions. If the police didn't ask questions, the newspapers would do it for them. The result would be an investigation that would reveal every intimate detail in the lives of all concerned. Beacon's and Cullinane's suicides would certainly be rehashed, Cooper, Hogue, and Marks would be questioned. Even if the three men were too scared to talk, their very silence would be suspicious. Sooner or later the police would find out about Wapping—his landlady would certainly remember the man and the woman who had visited her—and they would go over that hasement laboratory with instruments a damned sight better than a fine-toothed comb. When Wapping once came into the picture, the police would check their records and would discover that the little inventor had

once had Kuvar arrested on a charge of attempted theft. Then the salesman, with his known police record, would be very much in the picture. All his recent activities would be subjected to the severest kind of scrutiny, his bank balance would be checked, the fact that he had bought a new Lincoln would be noted, and he would be asked to explain a damned sight more than he would ever be willing to talk about.

"When they kidnaped us, they made a mistake," Trent whispered. "Now they've got to figure a way out of it. We've got a little time while they make up their minds. And if they don't decide that the safest way after all is to knock us off, kitten, we may come out of this alive."

He spoke with a conviction that he was far from feeling.

"But who was Kuvar talking to on the phone?" the girl whispered. "Who is this boss of his?"

Trent groaned. "I haven't had time to think about that," he answered.

Except for odd moments of fretful sleep when his tortured mind refused to grapple with the problem, he spent the rest of the night thinking about Kuvar's mysterious boss, about Kuvar, the truck parked out there in the garage, and the hellish secret of the suppressor he had discovered hidden in that hasement laboratory that had once belonged to a crackpot inventor named Wapping. In between times, he tried to work the copper wire off his wrists. It was no go on the wire. Those strands of copper had been put on his wrists to stay.

MORNING came in Chicago and they never knew it. The bright light of the sun did not penetrate into this gloomy storeroom. The only indication they had that morning had come was when Pinky opened the door, snipped the copper wire with a pair of

pliers, let them go to the toilet, and gave each of them a cup of lukewarm coffee from a cardboard container. The thug even provided soggy hamburgers for breakfast.

The big Lincoln was gone from the garage. Kuvar was gone. Art, Pinky's partner, was nowhere in sight. Trent thoughtfully considered the possibility of slugging Pinky, but the thug did not let them get too close to him and he always kept the tommy-gun ready. There was, however, something else he could do.

"How would you like to make yourself ten thousand dollars?" he quietly asked.

"What?" Pinky gasped.

"Ten grand," the engineer answered. "A thousand ten-dollar bills. In cash."

Pinky licked thin lips. He knew instantly what the proposition was but he also knew there were drawbacks to it.

"I'll never remember seeing you," Trent said. "So far as I'm concerned, you won't exist. We'll go straight from here to the bank. You can catch a plane at the airport. Nobody will ever know where you went. You can go to Mexico if you want to. Ten thousand American dollars is a fortune south of the border."

Pinky was thinking seriously about the proposition. He nervously changed his grip on the tommy-gun and wiped sweat from the palms of his hands.

"If you stick with Kuvar, sooner or later you will find yourself looking at the electric chair," Trent added. "If you go with me, you'll be safe and you'll have yourself a fortune."

Pinky moistened his lips with the tip of his tongue. "I wouldn't live to spend it," he said.

"I think you will," Trent said. "When we get out of here, Kuvar is going to be too busy taking care of his

own neck to spend any time looking for you. What do you say? Is it a deal?"

Pinky looked apprehensively at the big doors of the garage. He shook his head.

"I'll make it twenty thousand," Trent said.

Sweat popped out on the criminal's face. He wanted the money, he wanted it so bad he could taste it. Kuvar had promised to cut him in on the take from their extortion racket but Kuvar hadn't paid off yet and Trent was offering cash on the barrelhead. But—could he trust Trent? The engineer might take him to the bank and then turn him over to the cops. Then, if the police ever turned him loose, Kuvar would kill him.

Taking a bribe and double-crossing your pals was all very well, but all the angles had to be taken care of.

Trent didn't attempt to press the issue. "You think about it and I'll bet you decide your best chance is with me," he said.

He had laid out the bait. Now all he could do was to give the crook time to sniff around it.

PINKY herded them back into the storeroom but he was so busy thinking about the twenty thousand dollars he had been offered that he forgot to tie them up.

"We're as good as out of here, kitten," Trent whispered to the weary, frightened girl with him. "All these crooks want is money. Cash rings the register every time with them."

Privately he knew he was a liar. Pinky might sell out. And he might be too scared of Kuvar to double-cross him. What the apprehensive crook would do was a toss-up.

It was a toss-up that was decided one way when Kuvar came silently into the garage at noon and took over Pinky's job as guard.

"Go into one of the side-rooms and get yourself some sleep," Trent heard Kuvar say. "Here, give me your gun. But first open the door and we'll take a look inside the storeroom."

Kuvar had no suspicion that his prisoners would not be there. He was just checking to make sure.

The beam of a flashlight revealed their presence. It also revealed they were untied.

The sight drove Kuvar into a furious rage. Instantly he covered Pinky with the Tommy-gun.

"Did I tell you to untie them?" he hotly demanded.

Pinky's face turned green when he saw the gun was covering him. "I—uh—that is—"

"Answer me. Did I tell you to untie them?"

"No. But they had to eat."

"So you did untie them!" the salesman rasped. His face was beet-red with furious anger.

"Y—huh—" Pinky was scared almost out of his wits. He realized too late that if he had kept his mouth shut and pretended astonishment, Kuvar might possibly have thought they had managed to loosen the wire themselves.

For an instant Trent thought the salesman was going to shoot Pinky then and there. Certainly Kuvar was angry enough to do it. He was also obviously thinking about it.

Pinky hastily lifted his hands in an instinctive gesture to show that he was unarmed.

Probably that motion saved his life. Kuvar hesitated just a second and his hesitation gave him time to think. He didn't shoot. But he had already scared Pinky within an inch of his life and Pinky took the hawling-out that Kuvar gave him in obvious gratitude that he was alive to hear himself called so many different kinds of a sneaking rat in so

many different ways.

"In the future you damned well better remember that as far as you're concerned, I'm doing the thinking around here," Kuvar finished. "Now tie 'em up again. And this time gag 'em."

"What are you trying to do, suffocate us?" Trent protested as Pinky started to thrust a wad of dirty rags into his mouth.

"What the hell do you care whether you die of suffocation or a bullet through your guts?" Kuvar answered. "Gag him, Pinky. If he won't open his mouth, kick his teeth out."

"You want it the hard way?" Pinky asked, looking at the engineer. Trent opened his mouth.

"Sorry, kitten," he whispered. "But there's not a damned thing I can do."

Then Pinky thrust the wad of rags into his mouth and wired them in place by wrapping strands of copper wire through his mouth and around the back of his head.

IF THE night and the morning had been bad, the afternoon and the evening were stark, unrelieved torture. Adding to Trent's torture was the fact that several times he heard Pat crying softly and there wasn't a thing he could do to help her.

"If ever I get my hands on Kuvar's neck!" he thought.

This was wishful thinking and he knew it. There was damned little chance that he would ever get his hands on Kuvar's neck or on any other part of that squat, powerful thug's anatomy. There was a better chance that he and Pat would end up somewhere out in the middle of Lake Michigan.

A dozen times he tried to work his hands free from the copper wire. The stuff held like iron. It would give a little, but it wouldn't give enough and the end result of all his efforts was that

it was tighter when he finished than when he started. He tried to roll over and loosen the wire on Pat's wrists and he made this attempt at least a dozen times before he was finally convinced it couldn't be done.

And if he got the damned wire off his wrists, what the hell good would it do when Kuvar was squatting outside the door with a sub-machine gun in his hands?

As the agony from impaired circulation and from frantic fruitless efforts to free himself increased he began to wish they would hurry up and get whatever they were going to do done and over with. What were they going to do with them? Shoot them? If they were going to do that, what the hell were they waiting on? Every hour Kuvar delayed increased the chances against him. Already somewhere in Chicago or out in Lake Forest where Pat lived Trent knew that questions were being asked. Pat had been due to attend her father's funeral this morning. When she hadn't turned up there, a great many people had started wondering why.

No matter how many people wondered, what good would it do? It would take days, possibly weeks, for the police to trace the trail they had left behind them. Oh, the police could do the job. Hogue could tell them that Pat Beacon and Mike Trent had gone to Cicero to check up on an inventor who had committed suicide, but who could tell the police where they had gone when they left Wapping's laboratory? Eventually the police would make the connection between Kuvar and Wapping. They would jerk Kuvar up on the carpet and make him sweat, but that might take a month.

Something that happened next month would not do Pat Beacon and Mike Trent any good.

Then, out there in the big garage, a

bull voice was suddenly roaring:

"Drop that gun and get your hands up in the air! We're the police and we've got you surrounded. *Drop that gun, I said.*"

There was a hasty scramble as Kuvar got up from his chair.

"What the hell—" Trent heard the salesman gasp.

Then the sharp crack of a pistol accented the order the bull voice had given.

"Drop that gun, you bum, before I chop you down," the bull voice repeated.

There was a second of silence, then the clattering thud of a heavy weapon being dropped on a concrete floor echoed through the garage.

The next sound was the thud of swiftly running feet. Out there in the garage men were running rapidly to cover all exits.

"Find Trent," the engineer heard a familiar voice shout. "Find him and the girl. They must be here somewhere."

A CLATTERING and a hanging sounded in the garage. Then the door of the storeroom was wrenched open and someone looked hastily inside.

Then Hogue and Parker, and a police lieutenant in plain clothes and two cops in uniform, were all in the storeroom at the same time. They were picking up Pat Beacon and they were picking up Trent and they were carrying the two out of the stuffy little room. Then they were jerking the wire off their hands and feet and tearing the gags out of their mouths and the garage seemed filled to overflowing with men in blue uniforms.

And standing just in front of the small panel truck, Trent had the satisfaction of seeing Kuvar and Pinky being cuffed around by four cops who

were busy clamping gleaming circles of steel on the wrists of the surprised and terrified crooks.

Then Hogue, grinning like a fat lizard, was rubbing his arms, and Parker, his darting eyes looking everywhere at once, was offering him a small nip of whiskey from a half-pint bottle. The hot liquid warmed him enough so he could gasp:

"Where—where did you come from?"

Hogue beamed. "You can thank Parker," he said.

"You can thank yourself," Parker answered, grinning. "Last night, when you told me to use my own judgment about trying to pick up Kuvar again, I decided to try the place where he lived. From there I trailed him out to Cicero. I saw you and the girl come out of a house and get in your car and drive off. He followed you and I followed him."

Parker frowned. "One thing I don't get. You were driving your own car. Why in the hell did you come here?"

"There was a man in the back seat with a gun," Trent explained. Every pulse of blood through his cramped body was increasing his strength.

"Oh, I see!" the detective said. "I didn't get that part at all. I didn't know you had an extra rider. To me, it looked like you had come here of your own free will and that you knew Kuvar was following you. I thought maybe you were working out some deal of your own with Kuvar. It was only this morning, when I couldn't locate you, that I began to get suspicious. I started calling the men who were mixed up in this with you to see if they knew anything about you. Your friend Mr. Hogue knew why you had gone to Cicero but he also knew that you hadn't come here of your own free will. He promptly got the cops in. They spent the afternoon checking, then agreed to raid the joint

tonight. That's how we got here, Mr. Trent—"

Hogue was so anxious to talk that he could barely let the detective finish. "What did you find out, Trent?" he blurted out.

"About what?" Trent asked.

"About the way Beacon and Cullinane died," Hogue explained.

"Oh," Trent said.

"You had found some newspaper clippings in Beacon's library that gave you a clue," the patent attorney continued.

"Yes," Trent said. "Well, I found out how it was done."

"You did? Then Beacon was actually murdered?"

Trent nodded slowly. "I found Wapping's notes on what he called the suppressor. They were in a notebook that Kuvar took away from me. Would you have your men look around for a little black notebook?" Trent asked a police lieutenant who was listening to every word that was said.

A swift search was started. The notebook, however, could not be found.

"Well, it doesn't matter," the engineer said. "I know how it was done. Beacon and Cullinane were killed—and anybody else can be killed—simply by suppressing their will to live."

IT SEEMED to him that centuries had passed since he read the words Beacon had underlined in a book called *Why Men Die*. The heart of the murder method had been explained in those words.

"Life seems to be a balance between two forces—the will to live and the will to die. When the will to live ceases to operate, the individual dies. And that is all there is to it. If some method could be devised to stop the functioning of the instinct to stay alive, it would be possible to kill any man. That

method was precisely what Wapping invented and called the suppressor. When the will to live is suppressed, the individual kills himself. That, gentlemen, was the way Beacon and Cullinane were killed."

The men around him listened respectfully but without giving any indication that they had even the faintest understanding of what he was saying. They were policemen, accustomed to thinking of murder in terms of the knife and the gun. The explanation of a really scientific method of cold-blooded murder was miles beyond their mental ability. A bullet they understood, the way a knife worked, they could grasp, they knew something about poison, the common ways in which men kill each other. But a murder method invented by an erratic genius who had spent most of his life reading books in a dirty basement, a method that depended on an excellent understanding not only of the operation of the human brain but on a thorough-going knowledge of the generation of electro-magnetic radiations of exceedingly high frequency, that method they did not begin to grasp. Even Parker, who was as sharp-witted as they came, looked bewildered.

Hogue was the only man who seemed to get even an inkling of Trent's meaning. And even he seemed to miss far more than he understood.

"Suppress the will to live . . . ?" he questioned, looking baffled.

"Exactly," Trent answered. "And I'll show you how that was done. See that truck over there." He pointed toward the small panel truck sitting in the back end of the garage.

"I've never looked inside it but I'll bet you'll find a high-power radio transmitter of an unusual design in the back end if you take the trouble to look."

A radio transmitter they could understand. It was something known, some-

thing they could see, something they could feel. They hastened to look into the back end. When they returned they looked at Trent with growing respect.

"It's there all right," Parker said. "Got a collapsible aerial up on top."

"I knew it would be there," Trent said. "I saw that truck parked outside the City Club the night Beacon was killed. At the time, I thought it was one of the trucks used by the power company to check current leaks. Not until I had seen Wapping's notes and had found the damned thing parked in here did I even begin to understand what that truck really is—the generator of one of the damndest death rays ever invented."

They weren't following him again. He could see the lack of understanding on their faces. Hogue put his finger on one fact they didn't understand.

"I don't see . . ." the patent attorney said. "I know nothing of the functioning of the brain, you understand, but I do know something about radio. After all, I'm a patent man and radio is a part of my business. What I don't understand is this: If some kind of a death ray was being generated in that truck, and if it was parked outside the City Club the night Beacon was killed, and if it killed him, why didn't it also kill forty or fifty other people in the Club? Why was Beacon the only person to commit suicide? If the radio waves were focused on the club building, why didn't some of the other members kill themselves?"

"Wapping worked that out too," Trent said grimly. He began to remove his coat. "Ever since I left his basement lab, I've been damned anxious to get this garment off my back. And I haven't had a chance, until now. Look here, will you?"

He was ruthlessly ripping the lining from the coat.

EXPOSED between the lining and the cloth was a mat of tiny wires the size of fine hair.

"This was the aerial—and the only aerial—that would respond to the radio waves generated by the transmitter in that truck," Trent said. "If you check the coat Beacon was wearing when he was killed, I'll wager you will find this network of tiny wires in it too."

They started at him in incredulous astonishment.

"Well, I'll be damned!" one of the detectives said.

Parker got the idea first. "Then the person wearing a coat like this—"

"Was inside an electric field tuned to suppress his will to live," Trent said, nodding. "A man wearing a coat like this would never feel the field start operating. He would never know anything was happening to him. He would never know anything had happened, but the minute the field was turned on, part of his brain ceased operating, part of his brain—the vital area controlling the will to live—was completely suppressed. When that happened, the death devil all of us have inside us was freed from his chains and the man in the field of death was a dead turkey."

He paused. "One thing I don't understand is how they managed to get this aerial into my coat without my knowledge. But I'm going to get that cleared up right now."

Holding the ripped coat in front of him, he walked toward Kuvar. The salesman looked at him and tried to back away.

"How did you put this in my coat?" Trent said. His voice had the rasp of a file on case-hardened steel.

"I don't—"

"There's nothing I would enjoy more than breaking your neck," Trent said. "Talk, or I'll shake it out of you. How did you get this aerial inside my coat

without my knowledge?"

"At the cleaners," the salesman suddenly answered.

Trent gasped. "When I sent my clothes to be cleaned—"

"We found out what cleaners you used, then we got in at night and stitched those wires into your coats."

"I suppose every garment I own is a walking death trap?" Trent stated.

"Every damned one of them!" the salesman answered.

The silence that followed was broken by Hogue. "It's damned lucky you were an engineer," the patent attorney said. "Only an engineer could have figured this out."

"I haven't got it figured out yet," Trent answered. "There's a big chunk of this puzzle missing right out of the middle."

Hogue looked perturbed. "But—"

"I'm too tired to think about it," Trent answered.

The cops were already taking Kuvar and Pinky toward the door of the garage. Art, the man who had hidden in the back seat of Trent's car, was still missing. But Kuvar was caught. It didn't matter so much if Art and the hidden leader of this murderous group of extortionists were missing as long as Kuvar was in custody.

"What are you going to do now?" Hogue questioned.

"I'm going to take Pat home," Trent answered. "Then I'm going to my apartment and sleep a week."

WHEN Trent reached his apartment, it was three o'clock in the morning. Reaction from the nervous strain of the last few days had begun to set in. He was tired, tired as a dog. He had never been so worn out in his life. Pulling off his dirty clothes, he shaved, and took a slow tub bath. The warm water relaxed him enough to

bring out all the fatigue that had accumulated in his body. He put on his pajamas and throwing himself across his bed, found he was too damned tired to sleep.

He pitched and tossed on the bed. No matter which way he turned, he couldn't get comfortable. And his head was beginning to ache. His mind was a blur of pictures that went round and round, pictures of Beacon dying, of Hogue looking like a worried fat lizard, of little Cooper blinking his eyes, of Kuvar putting on the pressure in selling worthless stocks, and of that incredible basement laboratory of the dead Wapping.

His headache was getting worse.

He got up and went into the bathroom and took two aspirins.

Like many other men who prefer a smooth shave, Trent used a straight-edge razor. When he had finished shaving, he had been too tired to clean it.

Lying on the sink, the razor caught his eye. He thought about the smoothness of the steel in the razor and how quickly that keen edge would cut. He wondered why none of the men whom Kuvar had killed had used a razor to commit suicide.

It was such an easy way to kill yourself!

One quick motion and the jugular vein was slashed wide open.

After that, death came quickly and easily.

He picked up the razor and carried it back into the bedroom with him.

He sat down in a chair at the window. Outside was the night.

Far in the distance he could see a glimmer of light reflected in the sky from Chicago's Loop district. He heard a car rattle cautiously along the street and turn the corner. Then the car door slammed. Far out on the lake an ore boat moaned.

His headache wasn't getting any better.

The aspirin didn't seem to help.

He turned the razor over in his hands.

From his window he could see the intersection of two streets.

A small truck was parked down the side street, a truck with an aerial projecting from the top.

Inspectors from the power company searching for current leaks, he thought.

There was a curious kind of haze in his mind. It felt like a soft wet blanket gently pressing on his brain.

HE WONDERED vaguely if he was sick and decided he was just tired.

"Why be tired?" a voice seemed to whisper in his brain. "You don't have to be tired, you know."

He shook his head.

"Next thing, I'll be talking to myself," he muttered.

He wished he had an aspirin to take for his headache.

"Or didn't I take a couple of aspirins?" he thought.

He couldn't remember whether he had or whether he hadn't.

There was a razor in his hands.

How had it gotten there?

It was his razor, he recognized it, but where had he gotten it?

And what was a razor good for, besides shaving?

It was good for something, he knew.

If he could only think what it was.

He turned it over in his fingers.

The bright sheen of the keen blade caught and held his eyes.

He remembered the other thing a razor was good for.

Someone rapped softly on his door.

He heard the sound but the meaning did not penetrate the wet blanket that was closing down over his mind.

There was no reason for being tired.

A razor solved the feeling of fatigue, solved it forever.

It solved all other problems too.

He turned it over and over in his fingers. The bright glitter of the cold steel fascinated him.

The fact that the razor solved all problems fascinated him even more.

All his life he had had to solve problems. He had had to tackle enough problems to haffle twenty men.

He was sick of problems.

He held the razor in his hands.

The rap came again on his door.

"Mr. Trent!" a voice said.

Trent! Why that was his name!

Somebody who knew him was knocking on his door.

For a moment he was irritated at the interruption. What did they want? Maybe they would go away.

He sat very still hoping the person would leave.

The rap came again.

"Mr. Trent!" the voice urged.

"Ob, all right," he said.

He got up and opened the door.

A fellow by the name of Parker stood there. A detective who had quick alert eyes that never seemed to miss a thing.

Somehow he seemed to remember that the detective was working for him but in the fogged state of his mind he couldn't be sure.

Parker seemed to be repressing tremendous excitement.

"I thought you ought to know this," Parker said. "That raid—I just checked with the police, and they didn't make that raid, Mr. Trent!"

"What raid?" Trent asked. His voice was thick and heavy.

"Were you asleep?" Parker asked.

"Huh?"

"What are you doing with that razor?"

"Why—"

Trent never did know exactly how it

happened but he realized he no longer held the razor in his hands. Parker had it. And Parker was through the door and going over the apartment with the frantic zeal of a terrier hunting for rats.

"Where in the hell is it?" the detective was saying over and over again. "Damn, damn, damn! Why in the hell did I ever get mixed up in something as screwy as this? Why in the hell didn't I stick to divorces? Ain't I got any sense at all. Damn! Where in the hell is it?"

Parker was tearing the apartment apart.

HE TORE the sheets and the mattress off the bed, jerked the cover off the box springs.

And found what he was looking for.

The box springs were crossed and criss-crossed with hundreds of tiny wires as fine as hairs.

Parker ruined the razor but he slashed those wires into shreds.

Simultaneously the smothering wet blanket was lifted from Trent's mind.

He stared at the detective from eyes full of frightened horror.

"My bed was wired!" he whispered.

"You damned right it was wired!" Parker answered.

"But how—Kuvar—he's in jail?"

"In jail, hell!" the detective snarled. "Didn't I tell you I just checked with the police. I thought there was something funny about the way those cops acted when they rescued you. Hell, Trent, the police didn't make that raid. Those rats who rescued you were just plain ordinary thugs dressed up in police uniforms."

"My God!" Trent gasped. "They were scared to kill me but I knew too much for them to let me live. So they pretended to rescue me. Then, if I came home and killed myself, it might look suspicious but they couldn't be

connected in any way with my death. Have you got a gun?"

Trent's mind was functioning again. He still had a vicious headache but the fuzzy wet blanket that had been pressing the life out of him was gone. He saw the whole situation, including the trap he had almost fallen into. And at last he knew who was back of Kuvar.

"Have you got a gun?" he repeated. "That truck is down there on the street."

"Oh," Parker answered. "Yes, I've got a gun."

Trent was already jerking on shoes and trousers.

Parker handed him the gun. "I'll go with you," the detective said.

"You will not," Trent answered. "You get on the phone and keep calling until you reach Beacon's residence. Have the person who answers the phone get Pat out of bed and out of the house. Don't stand there staring at me. They may be after her too. Get on that phone."

As Trent went out of the room, Parker was already frantically jiggling the receiver of the phone.

"I'll get the Oak Park police too, just to be on the safe side," he yelled.

THE truck stood on the side street.

The back end was closed, it had apparently been left there for the night. No one passing it on the street would ever give it a second glance. The deadly radiations flowing from the aerial on the top were invisible.

Trent, his hands in his pockets and his head drooping down on his chest like he had had a hard night and was on his way home, walked past the truck without seeming to see it.

A slight hum was audible from inside the closed body.

There was no one in the front seat.

That was what he wanted to know.

Turning, he took four quick steps backward, and jerked open the back door of the truck.

Kuvar and Hogue looked up.

"We're using radio to check—"

"And you've used it for the last time."

By the shaded light in the back of the truck, Hogue's face turned a desperate green.

"Trent!" he whispered.

"Who else?" Trent asked. "And who, besides you, would be Kuvar's boss? Who, beside you, could have passed the word around at the City Club about Kuvar, thus laying the foundation for him when he turned up to sell his cats and dogs? Who, beside you, could have told Kuvar that I had gone to Cicero to check on Wapping? The answer is nobody, Hogue, nobody but you."

Hogue, crouched over the radio transmitter, seemed to have frozen into position. Kuvar, sitting beside him on the other side of the truck, looked like he had had a stroke of apoplexy.

"But I was a victim too," Hogue protested. "I don't—"

In other circumstances, that was to have been his story. The fact that he had been a victim too was to have been a perfect alibi.

"You gave the suckers the nudge they needed to get them started paying off, you mean!" Trent said. "Get out of there. And come out with your hands in the air."

Hogue started to rise.

His hands darted behind the radio transmitter.

He snatched at the pistol lying there.

Trent shot him four times before he could lift the gun.

His face was the face of a sick lizard as he fell out the truck. He landed on his head on the hard paving and slumped like a sack of sand that has

come open at the seams.

There was a slow writhing of muscles which soon ceased.

"You come out with your hands up!" Trent said to Kuvar.

The salesman looked like a rat that has been drowned in its own poison.

ALMOST before Kuvar had stopped shaking, the sirens had begun to wail in answer to the complaint from some irritated citizen that somebody was shooting off guns and interrupting his sleep. Brakes screamed in the street as the first car arrived. Before the cops had even started asking questions, three more cars were on the scene.

Trent was trying to explain what had happened. At the same time he was trying to listen.

He heard the sound of running footsteps. And forgot all about the police as Parker hurt on the scene.

"She's all right," Parker panted. "One of the maids saw a suspicious truck parked outside the house and called the police. They picked up a couple of mugs that claimed they were power company inspectors—"

"Pinky and Art!" Trent exclaimed. "They went after her while Hogue and Kuvar came after me. You say she's all right?"

"That's what she told me herself," the detective answered. He looked at the body lying on the street. "Well, I'll be damned!" he said.

THE newspapers splashed the story over the front pages with the headline: "Cicero Man Invents Death Ray." As usual, the papers had their facts all screwed up. For it certainly wasn't a death ray that Wapping had invented. But equally certain, in the hands of the wrong men, his invention was as deadly as death itself.

If the reporters were never able to get a complete technical description of the way the death ray operated, it was because the one man who knew the complete secret refused to divulge it. Big Mike Trent always gave the reporters the cold equivalent of "No spik Engleesh!" when they got around to asking technical questions. Kuvar didn't know the whole secret. Pinky and Art were a couple of radio repair men who knew enough to keep the transmitter running but didn't know any of the theory involved. Hogue might have known, but Hogue wasn't doing any talking where he was. So the newspapers never did get the whole story. And never will.

THE END

GOD OF LOVE

By JUNE LURIE



THE Greek god of love had numerous names. We know of him as Eros, Cupid, Amor—and others. As a rule he is pictured as the fun-loving son of Aphrodite, whose prime function is to go around inspiring love, one in the other.

A charming legend is told of him in connection with the unhappy goddess of the soul, Psyche.

Psyche was so beautiful that even Aphrodite herself was jealous of her and because of this, no mortal dared to hope to win her hand. This left Psyche extremely unhappy and for a long time she remained unmarried. Finally in desperation

her father went to that wise old oracle of Delphi and asked for advice. The oracle told him to put Psyche to sleep, which he did, and in a short while a gentle zephyr carried her to the midst of a verdant forest. Here lived Eros. Zephyrus, the breeze, deposited Psyche into the arms of Eros who immediately fell in love with her. He wooed her madly but always on the condition that physically he should remain invisible to her and that she was never to try to see his true form. For a while, under the gentle hands of Eros, Psyche was deliciously happy—the god of Love should be able to make her so. Then she went to visit with her

two sisters. They were so annoyed with her felicity and happiness that they poisoned her mind against Eros, saying that he was undoubtedly a horrible monster and that she should see for herself.

So when she returned to Eros' abode, Psyche under cover of night went to where Eros was sleeping and with a lamp in one hand and a dagger in the other she bent over the sleeping form of the god of Love. Instead of a monster she saw a handsome attractive youth. Overcome with surprise, she dropped the lamp which awakened Eros. When he saw the knife, he assumed the worst, and, overcome with sorrow, he flew away.

Psyche tried to drown herself after this tragic incident, but the waters simply carried her to Pan who tried to console her with the thought that eventually she'd be able to latch onto Eros again.

Psyche wandered all over the world in search of Eros, even appealing to Aphrodite to restore her to him. All the while she was watched over and protected by Eros who still loved her. After this tremendous penance, Aphrodite offered her an opportunity to regain Eros.

She was told to go to the underworld and obtain from there a box containing all the beauty in the world and to bring back that box unopened. Psyche was afraid to go for a while because of the fearful monsters which she would encounter. But she went, passed through all the dangers, obtained the box and started to return. But her womanish curiosity got the better of her. She opened the box. Instead of seeing beauty, a dense black cloud of smoke issued forth which sent her into a deep coma. Eventually Eros brought her out of this sleep with a touch of his golden arrows.

Finally a celebration was arranged in the Heavens and Eros and Psyche became fully reconciled. The whole idea of the story seems to be an allegory showing that before Eros (Love) can be received by the Psyche (Soul), the latter must go through a long period of purification and transfiguration. Eros is always pictured as a charming young man or boy with wings, over whose shoulder is a quiver full of golden arrows which have the property of stimulating love in whomever they strike.

* * *

THE INTEGRAPH



By WILLIAM KARNEY



ELECTRIC calculating machines, the slide, electronic brains, and a host of other machines are now familiar to the public through the great amount of discussion that they receive. And that is as it should be because such machines are assuming more and more importance in the scheme of things today. Modern civilization is automatic.

About a century ago an automatic calculating machine was invented which has served science and industry faithfully for a long time without receiving much publicity. We refer to the Integrating machine.

This is a rather simple device but one which is extremely useful. With the development and utilization of the steam engine, a great interest naturally began to be taken in the efficiency of that machine. A picture of the power developed by the steam engine was strongly desired. This picture can be gotten by attaching a pen to the piston and allowing it to move on a rotating drum, thus tracing a figure whose area gives a measure of the power that the machine is producing, because in a steam engine or any piston engine for that matter, the product of the pressure within the cylinder and the distance moved by the piston is the power of it.

The picture produced by the gadget on the steam engine is a simple graph with a curved line. The area under this curve is the power of the engine. The problem then becomes to measure the area under this curve.

If the curve is a straight line the problem is

simple. But usually the line is not straight. Therefore, the area is not so easily determined. In that branch of mathematics known as the calculus, the problem of determining the area under a curve is treated in lavish detail. If the curve is a regular function, algebraic trigonometric etc., it is possible to perform mathematical manipulations which will easily give the area beneath the curve. In fact this is the essence of the subject.

However when the curve is not a formal function which can be treated mathematically, something else must be done. Formulae cannot be applied to it. There is a solution though.

We are told by Simpson's rule to divide the area under the curve into little squares and add them up. The smaller we make the squares the more accurate the area will be. The error at the curve itself can be practically eliminated. Well, this was and is done. But because there were many diagrams to be handled the process became tedious when continually applied. There must be some easier way. The integraph was the answer.

It is simply a wheel attached to the end of the arm. This wheel after being suitably calibrated, is traced over the locus of the curve. When suitable constants are introduced, it reads the area beneath the curve directly.

The integraph today is no longer used in determining engine efficiencies except in the laboratory, because our techniques have become considerably refined. Nevertheless, it finds important uses in many places.

* * *

BLUE BOTTLE



Grandell backed up fearfully to the edge of the precipice, knowing he could retreat no farther . . .

FLY



By Geoff St. Reynard

You think the world around you is a reality? Well, don't be too sure—you might wake up from your *nightmare* at any minute!

ONCE upon a time, more decades ago than you have hairs on your head, there lived in China an old philosopher called Chuang Tzu. In all the land there was no one wiser, no one happier than he. But one morning he fell asleep in the shade of a banyan tree and he dreamt a curious dream.

Chuang Tzu dreamed that he was a blue bottle fly. For a long hour he was conscious of nothing but his hopes, his

dreads, his yearnings and appetites as a blue bottle fly; the ego of Chuang Tzu the man had vanished, and the ego of Chuang Tzu the blue bottle fly dominated.

He awoke from that most disturbing dream, and it appeared to him that once more he was a man.

Yet—he could never be sure. For the remainder of his life he pondered the question: Was Chuang Tzu a Chinese

philosopher who had dreamt that he was a fly, or was Chuang Tzu a blue bottle fly dreaming that he was a Chinese philosopher?

Alas! He could never determine the answer.

* * *

THIS is going to be a most difficult task.

You see, I know that you are used to believing all my little stories, and here I am with a perfectly incredible tale. Really, I wish you would try to believe it.

I do not go very often to the caves of Congala. The atmosphere is anything but reassuring to a materialist like myself, with its blue fogs; its strange and sometimes terrifying noises; its dampness and its clinging aura of—well, of the inimical supernatural. In brief, it is a perfectly frightful place.

But the hermit who lives in the caves of Congala is a very dear friend of mine and so last night I made the long pilgrimage to his dank, damp, foggy, ill-smelling, eldritch habitation.

And this is the story that Muhammed ben Alkar Al Moghrab El Sennif the hermit, who lives in the caves of Congala, told me last night over our last cup of burning rum. He snapped his fingers in that startlingly hony fashion he has, and a light and a flame burst into being at the tip of his thumb; he plunged it into my cup of rum and then into his, setting the wondrous liquor aflame; blew out his thumb, handed me the fiery beverage, settled himself more comfortably on his flat rock, and after shooing away a stray phantasm or two who had been peering owlishly over his shoulder at me, he opened his scarlet lips in the center of his matted brush of whiskers and told me the tale.

* * *

GREGORY CRANDALL, Gregory Peter Crandall, a reasonably hand-

some man just beginning to be middle-aged, was a palaeontologist: Which means a scientist who deals with incredibly ancient fossils. His special era was the Mesozoic, his particular period the Upper Jurassic, and his own pet beastie the Gorgosaurus.

For thirty-seven years he had been a palaeontologist—the loving study of prehistoric animals catches a man quite young, you know, and when other kids are playing Shoot the Badman, the embryonic fossil-digger is playing Catch the Stegosaur all by himself in the woods—for thirty-seven swift years he had been, not a brilliant or spectacular exhibitionist, nor an absent-minded plodder, nor a Mad Scientist, but just a perfectly ordinary human being who happened to be interested in defunct dynasties of monsters. He went to work in his bone-room at eight-thirty, he chipped industriously at age-old animals and venerable rocks all day, and at five he put down his gum arabic and chisel, wiped off the dust of the aeons, and went home. There he ate the excellent dinner that his blonde, average-pretty daughter had cooked for him, and spent the rest of the evening playing the harmonica (not very well) and reading texts and novels. Neither an adventurous, nor dramatic, nor out-of-the-ordinary life, nor absolutely necessary for the progress of man's comfort and security.

Gregory Crandall liked it, however. It gave him a warm thrill of accomplishment to sliver away the sandstone from around a Brontotherium skull so that no least scrap of bone was lost. It was good to be able to articulate an Antrodemus, a thing few men can do properly. He enjoyed the companionship of the quiet intelligent men with whom he worked, and of the eager young apprentices he taught. And best of all he loved the rare expeditions on which his

museum sent him, to remote and more-or-less exotic parts of the earth.

On these field trips went half-a-dozen brother scientists, Roger Yorke, his assistant, and, when she could cajole him artfully enough, his daughter—good as a man among the Tartars or the Zuni. Yorke and she would some day be married. Then Crandall had hopes of playing grandfather to a couple of incipient young palaeontologists.

Now have you the picture of his life? It was essentially peaceful; it was a pleasant routine with an occasional stimulating break; it was filled with tranquil, comfortable happiness.

When Arthur Petrie telegraphed to Crandall: Gorgosaur relics found San Santos Basin can you come help remove?—Gregory Crandall was justifiably elated. The discovery of these dinosaur bones in the region of San Santos, where nothing but sabre-toothed cats had been found before, authenticated more than one theory of his; he threw a shirt and a few books into a brief case, whistled to his daughter and Roger Yorke, and boarded the first train west. The head of a good palaeontology department can do things like that. "Can you come help remove?" Could he!

IT WAS only natural that Petrie should request the help of such an acknowledged expert on the Gorgosaur as Crandall. Three monographs he'd written about the second greatest terrestrial carnivore of all time; although a hundred and forty-odd million years had passed since his extinction, Crandall looked upon the Gorgosaur as a close personal friend. (Picture a green kangaroo thirty feet long, with a massive reptilian head and a mouth studded with six-inch scimitars, and you'll have a fair likeness of this prehistoric horror.)

Well, soon enough, though it seemed years to the impatient scientist, the train trip was over; and he crawled, hot and dusty, out of his coach and shook hands with the party of men who'd come out from the diggings to meet him. It was gaunt hare country in which these men grubbed for fossils—hot, unfriendly earth, hot, unearthly clear air.

"You've got a real treat coming, old man," grinned Arthur Petrie. "The geologic find of the century, and one that only you could fully exploit."

This pleasantly titillated Crandall's vanity, and it was a puffed-up palaeontologist who arrived an hour later at the camp at San Santos Basin.

"Where is the skeleton?" he asked. — The others laughed. "There isn't any skeleton," they said to him.

"What is it, a joke?" he barked. The train had been stifling.

"No," said they, "it's something else."

"What is it?" he queried sharply, sensing that they were not joking, but really had something big.

"Come over here," called Petrie from a little distance, "and see for yourself."

And there they were.

"Dinosaur eggs!" he shouted in amazement. "Dinosaur eggs, by the whiskers of Genghis Khan!"

"The first in America," said Yorke breathlessly.

Petrie smiled placidly at Crandall. "Not just dinosaur eggs, my friend. Gorgosaur eggs!"

Well. He was dumbfounded. He could do nothing but gape and yammer at them.

"How do you know they're Gorgosaurian?" asked Yorke.

"We've opened one of them," answered Petrie. "They were found by Horner, about a mile from here, buried in a sand pocket structure of the Lower

Cretaceous, hot as blazes and just as perfect as the day they were laid; seventeen of 'em, and every one a little scientific revolution. The opened one is in my tent, if you want to see it now."

There they lay in the broiling sun, sixteen dirty-cream-and-brown leathery ovoids; each well over a foot long, looking for all the world like huge lumpy Idaho potatoes.

Crandall leaned over and picked one up. "Why," he gasped, "petrification hasn't set in!"

"No," said Petrie slowly, "they're just as they were laid, I told you."

CRANDALL stood there with the greatest palaeontological find of the ages in his sweating hand, and murmured to himself, "Still eggs! Great Scott, the Protoceratops' from the Gobi Desert were solid rock. . . . These are still eggs!"

Then, not suddenly, but very, very quietly, he began to feel something; for a moment he could not catch it, it was so faint and faraway. The ghost of a willow tree's sighing would have been stronger. At last, through the beating of his own heart and the noise and chatter of the field party, it came clear and minutely powerful.

It was a faint and terrible pulsation. *The Gorgosaurus's egg was alive.*

Gregory Peter Crandall very promptly fainted.

A little later he was sitting in Petrie's tent, a dish of broken egg in his hand. "Sorry!" he said to Horner. "Sorry is a damned small word for what I feel. Imagine me—me—falling on the perfectly preserved egg of a dinosaur simply because the heat affected me to the extent that I thought it was alive!"

"Just look at the thing," interrupted his daughter, with a tiny shudder. "It's all head and legs. Isn't it awful?"

He looked closer. Yes, it was Gorgo-

saur—no other created beast ever had quite that flat murderous skull formation; what a pity he'd. . . .

A chilling chunk of ice went sliding down his backbone. That foot-long embryo was too pliant, too moist for a fossil. It *must* have been alive not long before. All logic denied it, all experience scoffed rudely; yet all evidence insisted upon it.

"Holy Pleistocene!" whispered Gregory Peter Crandall.

Two of the remaining eggs—there were now fifteen of them—contained living dinosaurs. There could be no doubt about it. "No possible probable shadow of doubt, no shadow of doubt whatever," as Yorke said in triumph. Somehow two of those eggs were alive.

"Gas," suggested one member of the party. "A gas that suspended life somehow. . . ."

"Radium rays!" exclaimed another. "Terrific heat."

"Yes, maybe atomic radiations. . . ."

"Some sort of vacuum?"

Petrie then summed it up in the only explanation any of them could really take in; they were all geologists, not philosophers or doctors or mystics. But they were used to rules, set within certain fundamental limits, and nothing before had ever so shattered those rules.

"I think," said Petrie solemnly, "I think that Somebody slipped."

IT WAS the greatest day of Crandall's life when they hatched.

For hatch they did, eventually, after two months of weary experimentation, and he had the humiliating feeling that they would have hatched whether he'd experimented or not. When they were removed from their original "nest," the force that held their life processes in check simply ceased to function, that was all.

When he saw those hideous little

monsters take their first wobbling steps, a quite fatherly love warmed his breast, and Crandall mentally stepped upon a peak in Darien. It was as though an historian, tapped upon the shoulder, should turn to discover Napoleon Bonaparte smiling genially at him.

But Hercules' dozen labors soon began to seem amateurish to him as he tried to satisfy the engulfing appetites of the pair of dinosaurs. First fish, unsuccessfully, then plants, still more so, and then raw bloody meat, which worked. From babyhood until they were six months old they ate nothing but meat, and thrived on it. Then one sickened, unaccountably, and the other attacked and ate it.

Contrary to most theories, the brutes had grown with an almost incredible swiftness. Unlike their cousins the Alligators and the Crocs, these saurians gained weight and height as though they'd been gigantic balloons, being blown up by some supernatural giant; their bulk increased visibly from day to day, and when the one died at the claws and teeth of the other, it had attained almost adult size—twenty-nine feet from broad evil snout to thick murderous tail.

The remaining Gorgosaur was therefore quite a problem. Penned by a high stone wall in its big enclosure near San Santos Basin, the brute made night and day equally hideous by its unceasing roars of hunger, rage, frustration, and general bad temper. The three museums which had sponsored its care and feeding began more and more to feel that the beast ate too much; whereas the Gorgosaur had always felt that it ate too little.

Crandall began to have frequent headaches, blinding migraines. He was not used to the desert's stifling perpetual heat. The monster's appetite was unbelievable. The sheep and goats of

the five surrounding counties were depleted fearfully. All his time was spent feeding the dinosaur. He rarely slept three hours at a stretch. He grew snappish and irritable.

Of course, though, science was being inestimably aided by its study of this eldritch remnant of prehistory. Multitudes of theories, for example the one of slow growth, were disproven or proven, and he felt, when he had time to feel, that he was doing a lot to further palaeontology.

One depressingly hot night the noise from the enclosure was even more prolonged than usual. Crandall was tired to exhaustion, and didn't feel that he could walk the half-mile to let another sheep into the brute's pen, so he sent Horner and another fellow.

A LITTLE later, as he lay sprawled on his bed talking to his daughter and Roger Yorke, he was shot to his feet by a man's hoarse shout. He ran out of his tent, and the chap who had been with Horner staggered up to him, face a twisted chalky mass of terror.

"My God, sir," he gasped out, "that devil's got Horner!"

Crandall felt the blood drain away from his face, his hands were abruptly clammy and wet. "How did it happen, man?" he harked.

The fellow, a laborer who had helped with the enclosure, panted, "He's tearing down the wall—Horner jumped up into the gap, and the thing snapped him off like a gnat!"

Crandall had been prepared for something like this, although he had taken every precaution against it. He whirled into his tent and grasped an elephant gun from its rack. "Stay here, Roger," he commanded. "Take my daughter away as fast as you can go if I don't stop the creature."

Then he began to run toward the

great enclosure, toward the sounds of tumbling stone and enraged Gorgosaurian yells.

To his left he saw Petrie, Hammond, and Avenoff racing to the pen too. "We'll have to kill it!" shouted Petrie.

"Yes," he answered, and his heart was leaden, for this terrible beast was his spiritual child, his dreadful yet fascinating and beloved friend.

The scarlet sliver of moon gave no illumination at all; the thick night pressed in on the man remorselessly. He was bathed in sweat.

Soon he saw the hole in the wall, the bead of that brute from a younger world lifted above it, a darker shadow in a universe of blackness. It was tearing at the wall, crying fiercely, the dark blood of its most recent kill smearing its chest and its stunted forearms.

The four of them stopped thirty feet or so from the pen.

"Shoot!" bawled Petrie hoarsely. Crandall raised the big gun, a pang went through him, and he fired.

Now he was no dead shot. In his youth he had picked off squirrels and rabbits occasionally, but for years he had done no serious shooting whatever. He struck it in the chest, a little to the right of the sternum, when he had meant to put his shot in its eye. Then it was over the wall.

Crandall flung away the gun, for, just as in the most melodramatic of jungle stories, he had forgotten to bring any loose ammunition. With a yell of panic he fled toward San Santos Basin.

Behind, Petrie and his two companions drew the dinosaur first, and gave him a few minutes' start. Then the beast raised its head, a shattering roar shook its blood-bespattered frame, and it bounded off into the night on his trail.

If he had ever been bunted through the woods by bounds, and if he had run and run until he could run no more, and

then, thinking he had won, suddenly heard them bowling close by—then he might have known a fraction of the fear that filled him when, floundering in the loose sand of the desert, he heard that brute sniffing behind. It could not see so well in the dark as the man could, but its sense of smell was phenomenal. Crandall was drenched with icy sweat, his horror-filled mind in a cold funk.

HIS already weary legs drove over the shifting sands, his head turned to catch the first glimpse of the hell-spawned reptile. Soon he heard another sniff. It sounded in his ears like the hissing challenge of an enraged and malignant locomotive.

He fled on, falling sometimes and scrambling up with dismal shrieks of terror to push on; and now the alien thing behind him heard, and now there could be but one outcome.

The murderous, the personally-hating desert sands! Like quicksand imbued with life from Hell it sucked at his thrashing feet, drawing him back a foot for every two he gained. The unreal, the unearthly terror that was the anachronistic Gorgosaur filled his mind with a mushrooming fear that threatened to snap the cords of reason and turn him to a babbling idiot even before the scimitar fangs closed on his back; horror bred horror until the clutching sand became a million octopi leagued with the dinosaur to destroy him.

Horror bred horror, again and again multiplying in his brain till a scarlet fog of fear clouded memory and hope and even fear itself, and he was in a childhood nightmare of innumerable shapes of menace, expanding impossibly until the universe itself burst into fragments.

For a man deserves better of his gods than to be thrust suddenly into the Jurassic Age!

Then he came, quite unexpectedly,

to the San Santos Rim.

The Rim is a precipice, cut by a river straight down toward the earth's heart, a smaller Grand Canyon. Crandall had come to the edge of this cliff, and there was nowhere else to run.

Behind him Crandall could hear with fearful clarity the howl of the Gorgosaur.

Nowhere to flee from the monster!
Nowhere but—down.

He gasped a breath, and as the bloody saurian suddenly towered above him, he leaped into the void. Blackness rushed to welcome him.

IT HAS been said that drowning—and falling—persons live over their entire lives in the space of a few seconds.

How could Crandall do that? How could his tottering reason accept an instantaneous rehash of a life that had led him straight to this hysterical ever-mounting horror? The mind of man is a fearfully wonderful thing, God knows, but it was never built to be filled with primeval panic.

The instant he jumped, the world blotted out about Crandall and he began to live an entirely different life.

When you think about that, it's perfectly natural. Wonderful though it may be, the mind is still a damnably queer and chancy instrument; it plays the most fantastic tricks which we have come to take for granted. Crandall's brain, twisted with terror of a malignity unimaginable, raced to save itself and began to construct a wholly different existence for Crandall.

Fantastic? But quite true.

Before the first second of his fall was up, his mind had been born again, weaned, and had sent itself off to grammar school.

During the second second his mind had its first date, went through high school, created a fantasy world about

itself that grew ever more real.

Now why, my friend, am I telling you all this? Are you thinking about now that I am going on to tell you about Gregory Peter Crandall's second and mind-created life?

Why should I do that? Why should I tell you the story of that pseudo-existence, *when you know it already?*

For you see, my friend, you there with the FANTASTIC ADVENTURES in your hand, you are Gregory Peter Crandall the archaeologist!

Let me explain it to you. Your life, the one you know now, is a reflex of the panic of your mind. Yes, you are falling even now. And when your body strikes the first of the rocks below you, oblivion will come.

Well, now, look here, you say. What about all the other people, all the men and women in the country houses and the cities and the shops, sitting around reading FANTASTIC? Are they *all* Crandall?

You're arguing from a wrong premise there, my friend. There is no magazine called FANTASTIC ADVENTURES. You imagined it. You are imagining this yarn. But you see, the mind being the strange entity that it is, sometimes it slips for a fraction of a flash, and reality enters—as when you “dream” of endlessly falling, falling and never striking, and it isn't a dream, but a flight into reality. Your mind is then jumping the track of its self-made existence. And when you “dream” of running through molasses-like stuff in dread of something awful behind you, it's just a momentary remembrance of what happened only a few actual seconds ago. In the same way your mind, Gregory Crandall, which is after all a sturdy, normal mind when it's left to itself and not asked to bear superhuman burdens, has now rebelled briefly against its own retreat, and you are

therefore reading this story—which is not a story, and is not in a magazine which doesn't exist, but which is a sort of projection from my mind (for I know all about you since the hermit told me) to yours. And you have taken this mental projection of mine, and imagined it into a magazine which doesn't exist, and are now "reading" it with a sort of half-belief.

You'll think about it a while, won't you? Your good, solid, substantial mind will endeavor to come to grips with the problem. And then, as the primitive panic engendered by the Gorgosaur creeps back through the fabric of your brain cells, you'll forget this "story" in this "magazine" and you'll go on living your dream-life—until one "day" as you now reckon time, your body will strike the rocks. . . .

Although I have said that the hermit told me this last night, you must not imagine it was truly last night; for, in addition to the jumbling-up that your mind has given time, the hermit himself is something of a juggler with days, weeks, months, and years, which are to him plastic media which he twists and shapes in any way he pleases.

You see, I said that you wouldn't be-

lieve me, at first! And I can't prove it to you. But if you do give credence to even a bit of this tale, let me pass you a word of consolation: the Gorgosaur followed you over the Rim and will be dashed to death with you. You need have no fears for your daughter or her fiancé.

* * *

THIS, then, is the story that Muhammed ben Alkar Al Moghrab El Sennif the hermit, who lives in the fearful caves of Congala, told me last night over our last cup of burning rum about you.

There is only a very small thing which the hermit forbade me to project to your mind.

If a man falls from the San Santos Rim, it takes him precisely five seconds to drop the entire distance. It will be just five seconds before he strikes the jagged rocks beneath him.

This imagination-life of yours is apportioned with mathematical accuracy, so many seeming years to one actual second.

And Crandall, my poor old Crandall, whose dream-life is so real and so precious, I cannot tell you in what second of your fall you are now living!

GEOGRAPHIC SURVEY



By MILTON MATTHEW



PRECISION measuring is no novelty to Americans. All throughout the war we were aware of how accuracy is necessary in the fashioning of machinery. But is it as well known how equally necessary accuracy is in the process of measuring distances?

While it is true that the ancient art of surveying hasn't changed much through the ages, at least basically, there are some inventions that have speeded up the process terrifically. Formerly it has been necessary, always, to painstakingly lay out base-lines, make innumerable angular measurements from these base-lines, and then construct the map of the given area. The same thing is still done, using more refined instruments. The change that interests us occurs with

the introduction of photography.

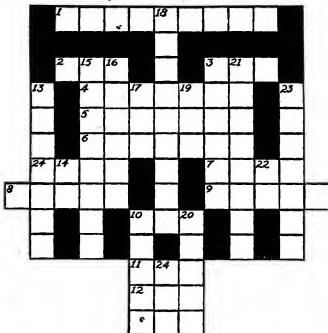
An airplane, carrying a number of specially designed, wide-angle cameras, flies over the area to be surveyed. It takes one photograph after the other, at precisely measured altitudes and speeds. On the ground, these photographs are put together, measured, overlapped and otherwise arranged until they present a perfect picture of the terrain the plane has flown over.

Think of the labor that has been saved by this technique. And areas that were formerly regarded as being impossible to survey, bow before the inexorable power of man's machines. A lot of ground work must still be done in order to establish accurate base lines, but the foot work is out of the job!

FANTASTIC ADVENTURES

★ CROSSWORD PUZZLE ★

By **BRUCE D. KELLY**



HORIZONTAL

1. Action caused by atomic activity
2. Girl's nickname
3. It takes a lot of water to make this
4. Pertaining to planetary paths
5. Walker of a fire trail
6. Stored or latent energy
7. Shaver says it puts you on your toes
8. Itus
9. The Navahoes made one of fire
10. Get it on the rug and you are in the dog house
11. You can make this with silica
12. What marriage makes a man and woman
24. A wood-wind musical instrument

VERTICAL

10. An inert gas
13. Actions of a mechanical man
14. Degree in Science (abbr.)
15. Sentries
16. Devil's parties
17. A good ray
18. Sentient machines
19. To make lace with thread
20. Sponges are full of them
21. A word of power
22. A mid-west State
23. Science of nuclear fission
24. A good place to stop

Continued on page 149

She

By **ROG PHILLIPS**

There were twelve brilliant minds in the group, and together they formed a super intellect — which none of them could control

CARL SPRAGUE'S hand was steady as he inserted the needle in the vein of his left forearm and pushed down gently on the plunger, forcing the fluid into his bloodstream. After the fluid was all out he let the needle rest there, until the stream of blood would carry the fluid well away. Suddenly his nostrils were filled with the strong odor of frying bacon.

His eyes widened in surprise. Then his face relaxed as he realized that it was merely the effect of the substance he had injected into his bloodstream as it passed through the fine passages in his nostrils.

He pulled out the needle and quickly clamped a piece of gauze over the small hole. Although it wasn't necessary, he laid a piece of tape across the gauze to hold it in place indefinitely.

Except for that bit of gauze over his

arm, he was completely naked.

Sitting back in the weird looking chair, he pressed a button imbedded in the chair arm. The felt padded clamps, moved by gear wheels, imprisoned his arms, legs, torso, and head.

A foot in front of his face a microphone was poised, suspended from the ceiling. Its cord ran to a wire recorder across the room, ready to start at the first sound of his voice and record anything he said.

A few feet away, on the table, was a bulky envelope. Beside it, laying flat, was a sheet of paper, typewritten. The sheet of paper contained this message:

To whom it may concern:

If I am still sitting in this chair and am still alive you must under no circumstances release me, even though I might order you to do so. If I am dead



Spegue set in the chair, strapped so he couldn't move. And then he became aware of a pulsing aura of force in his mind—the twelve were rushing down upon him . . .

you must leave me as I am and notify the authorities.

The envelope contains a complete report and explanation of everything, including the formula of the drug I have taken. It also contains the names of those whom I believe to be the master-minds of this thing.

The clamps which imprison me will be loosed by a time mechanism when the drug has worn off. Those clamps are to prevent me from doing harm to myself. I could as well have taken sleeping pills, but I preferred to remain in full consciousness so as to study the effects of the drug.

I hope that those men whose names are in the envelope will not become aware that I have taken the drug. If they do, their efforts to kill me by control will be prevented by my being unable to move.

If they are able to control my heart they might still kill me. Therefore this note.

I believe I am far enough away from them so that if they are able to locate me they will be unable to get here in the flesh before the effects of the drug have worn off and I am freed from the clamps and can make my escape.

Carl Sprague.

A HUNDRED yards away from the house, in a mail box on the highway, a similar envelope contained duplicates of the papers in the one on the table. It was sealed and addressed to the postmaster of Junctionville. It was late afternoon on Saturday. There would be no mail pickup until Monday morning, and by that time if things went all right, he could retrieve it!

Carl reviewed all his precautions and hoped they were adequate. Then he closed his eyes and concentrated on analyzing the effects of the fluid he had injected.

The hours went by slowly. Once, for half an hour, he slept. When he awoke it was with a start, and with momentary alarm at his inability to move. Then he remembered, and settled down once more for whatever might come.

Every hour or so he would tell the time aloud and say that nothing had been felt yet. The wire recorder across the room would start running at the moment he began talking and stop the instant he stopped. It was equipped with the new sound relay switch.

It was the month of July. The sun took its time about setting, but finally shadows crept through the windows and the darkness of night settled in the room.

With those shadows, Carl felt the vague stirrings of strange thoughts in his mind—different than his own thoughts, and with a feeling of externality entirely different than anything he had ever experienced before.

THEY were quite dim—sporadic and incomplete. If he had not expected them, if he had not been primarily a thinker, trained in searching his own thoughts with complete concentration, he would certainly have missed them or dismissed them as absent-minded dreaming.

A vision rose in his mind of a luxurious room. A man appeared to be standing about ten feet away, facing him. The man was tall, with a strong, intellectual face and white hair combed straight back. The vision seemed to shift unaccountably, so that he viewed the man from several different positions as if he were looking through the eyes of each of several persons grouped together. It was sporadic and unpredictable in its shifting.

A thought came into Carl's mind. He had the impression that it came like a bubble rises to the surface of a gummy

fluid, forms a bulge, and then pops softly. The thought was that this man standing there was named Judge Porter.

Then a voice sounded strong and clear, saying, "You don't need to. I became thoroughly conversant with the fact that the fluid injected in me gave you some sort of positive control over my body superseding my own."

Carl guessed that the voice was so clear and distinct because it was heard by several men—the men through whose eyes he was seeing Judge Porter.

"An intelligent man!" a fainter voice said, mocking.

"Perhaps," the judge said, and the vision of him stood clear and sharp temporarily. "Perhaps I would be more intelligent not to reveal my conclusions as I go along, since it seems your control doesn't include control of my thoughts."

The vision of Judge Porter dimmed. A rush of thoughts passed vaguely and rapidly.

"Ah," Judge Porter's voice came again, strong and clear. "You are now in some sort of mental—ah—rapport. So mind reading does develop in time—perhaps thought control."

The vision of the Judge came back. It seemed to come through a mind that was angry and slightly unsure of itself.

"I gather," the Judge's voice came again, rising into Carl's consciousness with almost the same external reality as a voice sounding in the room, "that you are engaged in a discussion on what to do with me. The conventional pattern. Too dangerous to hold, too dangerous to let go. Perhaps you would like to know where your greatest danger lies. What it is."

"And what is our greatest danger, Judge Porter?" a voice sounded, clipped and cold. For a fleeting instant a second image seemed to form, of a fleshy man, sitting, his eyes pig-like, his lips

full and flaccid, his teeth small.

"I gather," the Judge's voice continued as the image faded and the Judge's erect figure returned, "that it hasn't occurred to any of you that with this method of mental contact and control you have discovered and are using, you are playing with a force that might grow beyond your ability to control?"

There was a humming silence, much like that on a long distance telephone wire.

"I believe I'm correct in surmising," the Judge's voice picked up, "that the first few shots do little more than open up the lower channels, controlling the body. You can force my arms or legs to move independent of my will. But you can't read my thoughts."

"Yet you men here are the inner circle, so to speak. You are in perfect mental contact with one another, and I doubt that you can shut your thoughts off from one another. That is a strength in one way, because it makes secret treachery of one of you impossible. But it's also your greatest weakness, because none of you can ever escape from the others, and inexorably you are becoming ONE MIND."

"Nonsense," the clipped tones came. "Anyway, what's so dangerous about that? We have our discussions. We think independently. We make our plans and talk them over mentally. It's developed into a very natural and fluid system."

"Exactly," the Judge's voice sounded. "Some of you must be doctors—perhaps all of you. You should be aware that a property of a healthy mind, free of inner strife, is a single ego center, and that in a mind that contains some element of schism GREAT ENOUGH, schizophrenia develops. You know that, but haven't thought of how it applies to you as a group."

"There are twelve of you, and you

might he considered as a single mind split schizophrenically because of the schism of your twelve separate brains, just as any twelve men could be considered. But you have overcome that—healed the split, if you regard it that way; and are becoming one mind. Can't you see that the ultimate end of that process will be a single ego center and that IT WILL BE NONE OF YOU, BUT ABOVE YOU?"

The vision of Judge Porter suddenly intensified until it seemed to Carl that the judge had materialized in the flesh in front of him.

"Sure you will still be yourselves," his voice continued. "You will not be able to comprehend this super ego that develops, any more than your arm can comprehend within its thought complex the intricacies of your whole mind. But perhaps even now, this super entity is developing and is aware of itself—just as each of you, sometime during the first few months of your existence became aware of yourselves and identified your thoughts with yourself.

"Soon that super human entity will begin to exercise its control over each of you as the members of its multiple body. It will be greater than any of you because it will not BE any one of you. It will control you as you control your arms and hands. It will be above you, unreachable. You won't be able to fight it any more than your arm can defy you. You will be its slaves—unable to break away or even disobey."

The vision of the judge stood there, an expression of reckless defiance and mockery on its fine features. Then suddenly it vanished to be replaced by something entirely strange.

Carl's arms strained against the clamps that held him fast. His back and his legs also strained. It wasn't something in his consciousness, but entirely separate from it.

Then, for a brief second, he saw the Judge again, his hand pressing a gun to his temple. Carl's fingers curled in by themselves. In the vision there was a loud report of a gun, and the Judge crumpled.

Carl opened his eyes in horror and forced his thoughts away from seeking those foreign impressions. He fixed his eyes on the radium dial of the clock, shining in the dark. And finally he slept.

MR. FIELDS—no one had ever known him by any other name—looked from one to another of the faces of his eleven associates. There was Charles B. Ritter, one time biochemist and discoverer of the complex *selenoid proteide* that produced the near perfect telepathic union of minds. He was tall, angular, awkward except when engaged in his chosen work. There was Al Fratt, short, bandsome, vain; and Greg Bott, six feet, two hundred pounds, a nose too straight and a little too wide for nature. Al and Greg had been with him long before Sepro had been discovered. These three and Mr. Fields constituted the nucleus of the twelve, dominating the other eight largely.

Fields looked down again at the corpse of the Judge. His eyes glared hatefully at the white haired, pathetic looking body. His thick fingers clenched into fat round fists. The flesh around his eyes made them seem pig-like and inhuman. His enormous shoulders shrugged under the expensive blue of his suit coat. He turned suddenly and glared at the eleven.

"How was I to know he would be too smart to handle?" he snarled with his loose, fleshy lips. "No man should be that intelligent." His face relaxed. He turned back and poked the toe of his flawlessly shining shoe into the ribs of the corpse. "Anyway," he added,

smiling loosely, "he was an egotist. He had to show us how smart he was—thank God."

He smiled down at the dead judge, benignly, turned away, and crossed the thick carpet to a small desk. There he dropped with a loud sigh onto a chair and pulled the phone to his chest.

He dialed a number and hung up. The phone started to ring. He waited until it stopped ringing and picked up the receiver again.

"Hawkins?" he said. "Send Butoli and his two men up here at once."

He slammed down the receiver and pivoted about without rising.

"It's going to be a bit ticklish," he said aloud. "The best bet is for Butoli to get a hotel room for him somewhere and lay him out just as he is now."

He rose and walked over to the corpse and studied it.

"Bit of blood on the rug," he said thoughtfully. "Charles, perhaps you'd better go along and see that a similar amount of the same type blood is in the same spot. I'd suggest you take a sample now and test it in the lab downstairs while the judge is being taken out to the car, so you can be ready."

A door opened. Three men entered the room. Their eyes settled on the corpse. Their steps slowed and a worried look came over them. Butoli, heavy, dark visaged, looked at Mr. Wright with fear in his eyes.

"I didn't think—" he began uneasily.

"Neither did I," Mr. Wright snarled. "Or I wouldn't have touched him. If you ever get half as smart as he was you won't live. Now get this straight the first time."

He explained briefly what he wanted done.

CARL SPRAGUE opened his eyes. They blinked slowly while his arms tried ineffectually to move. The clock

said a quarter to six. Almost any minute now it would trip the relay that would free him.

The afternoon sun flooded through the west windows. A fly had gotten in somehow and was buzzing around. It lit on Carl's chest and began feeding contentedly. Carl winced at the sharp pain. He tried to wriggle violently enough to alarm the insect, but it seemed to know it was safe and continued its torture with now and then an impudent swoop in small circles.

The effects of the drug had worn off so many hours before that it seemed part of the dim past of some previous eternity. Carl cursed his overly cautious preparations, yet as he cursed them he realized that he had acted wisely and would not have done differently.

Twenty-four hours was a long time. He was hungry and very thirsty. His mouth was almost dried out. But he had not been as troubled by being held in one position as he had expected he would be.

He regretted only his rashness in not having someone there to watch over him. If the fly had gotten in earlier, if several flies had gotten in, there would have been hours of torture instead of minutes.

The electric motor in back of the seat started up. The many clamps separated and moved apart. With a grunt of pleasure he started to rise. He found he couldn't. His legs were asleep. It was nearly five minutes before he was able to stand.

An hour later he had bathed, shaved, and dressed, and was finishing a hasty breakfast he had cooked. While he ate he thought over all he had learned. The bottles he had stolen from the refrigerator in the offices of Ritter, Fratt, Bott, and Mr. Wright had not been missed. Or if they had, those men had not

seemed to bother enough about it to have it on their minds the night before.

The "suicide" of the Judge had, in a way, been a bit of luck—though not for the Judge. Carl got up and crossed the kitchen of his cottage and turned on the radio. He searched the radio log in the Saturday paper and found the station that would have news in a few minutes and turned to it.

If the Judge's body were found that would be positive confirmation of the externality and reality of what had gone through his head so remarkably the night before. It was so far outside ordinary experience that he found difficulty in believing he had not dreamed it up out of his own thoughts in some way.

He poured another cup of steaming coffee and lit a cigaret. The program of recorded music ended. He puffed impatiently during the commercial.

It was a thousand miles from Chicago, but the suicide of a Judge would rate a national release immediately. The commercial ended and the reporter went through the news headlines without mentioning it.

Carl alternately drank his coffee and smoked his cigarette while the news broadcast continued. It seemed about over when there was a pause. The reporter came back with a flash report. Judge Porter's body had been discovered in one of the largest hotels in Chicago. The reporter mentioned that it was the seventh suicide in Chicago in the past thirty days that had not bothered to leave a note explaining his act.

There was little to go on. The desk clerk could not remember what the man who had rented the room late the night before had looked like. He could not remember having ever seen the Judge before and was quite positive he would have recalled it if he had. The police

were checking every angle—but it seemed that it would be just another one of the suicides without reason and without a note to explain them that had become so common in Chicago in the past two months.

The news ended and the radio switched to a broadcast from some church. Carl left it on while the organ music played.

"There's no doubt about it," he finally muttered, grinding out a half smoked cigaret on his plate. "I'm going to have to get help. But who would believe me? And who, of those who know enough about it to believe me, could I trust?"

HE COULDN'T even trust his lifelong friend, Les Turner, the man in charge of investigating all those mysterious suicides. It was that fact that had made him flee hastily from Chicago in the early morning hours three weeks before. The memory of that night brought an expression of pain to his face.

The radio droned on into a sermon, but he wasn't listening. In his mind, vivid, was the memory of that night. He had learned from Les about the only suspects—four men named Ritter, Fratt, Bott, and Wright, who had an office in a large building in the loop.

Les had said that he and his men had searched the offices thoroughly for some bit of evidence that might be useful, without success. Autopsies on the supposed suicides had revealed the presence of selenium in the brain tissue. That was the one meager clue connecting them, at first. Then some of the suicides had been traced to the offices of those four men. And Les had told him about it.

For some unaccountable reason he had decided to search those offices himself without telling anyone. Getting

into the building was not difficult, nor was getting into the office in question. Les had once taught him the trick of opening almost any lock of the type on office doors.

Once inside, he had explored the whole place. There was a small waiting room with a receptionist's desk to the left of a Maple-panel door leading to the inner offices. That Maple door had been locked, too. He had opened it and found a short hall lined with doors opening into small rooms. At the back had been a large, luxuriously furnished office.

The first door to the right in the short hall had opened into a small laboratory. There had been a refrigerator in there, padlocked with a combination lock—unpickable.

Whoever had put it on had carelessly left the screws to the hasp exposed. Carl had taken out the sheet metal screws that held the hasp and opened the refrigerator.

Inside were trays of small bottles covered with rubber. They were a standard type used for storing fluids to be used in hypodermic syringes. They had had labels on them. The labels had each had a single typewritten letter on it, and there had been four types—A, B, C, and D.

Carl had decided to take one of each. He had taken them out of the refrigerator and lain them on the wall counter and closed the refrigerator. He had just gotten the hasp back in place and three of the screws turned in with his fingers enough to hold them when the sound of the hall door opening had come, faintly.

He had stood frozen while he heard someone unlock the Maple inner door. Heavy footsteps had gone past the lab door, partly open. He had had a brief glimpse of a fat face and massive shoulders in the sudden brilliance of the hall

light, and had despaired of getting out without being caught.

Getting away, he had realized, was only half of it. He had to get away without leaving any trace of his visit. That meant tightening up the sheet metal screws of the refrigerator hasp as well as getting out.

He had waited for a while in hopes that the man would leave shortly. But it soon became obvious that he had no intention of doing so. He was in the large back office. He was humming monotonously in an off key, his mind on something.

Carl had carefully screwed in the fourth screw and tightened them all carefully. Then he had placed the four bottles in his pocket and stolen softly into the short hall.

The monotonous humming continued, sporadically, with agonizing silences during which Carl hardly dared to breathe. He had gone through the Maple door to the outer office and was wondering if it would be possible to open the door into the hall without making a noise, when footsteps had come down the hall and paused at the door.

The shadow of an arm on the frosted glass had reached for the knob. There was no place to bide and no place to retreat. Carl had taken a long chance and squatted down behind the small receptionist's desk. If the room had been lighted he would have been revealed; but the only light came through the partly opened Maple door from the short inner hall.

Even in the semi-darkness he would have been easily seen by anyone looking around as they passed through the office. He had held his breath as the outer door opened and a man stepped in.

The light coming through the Maple door revealed him clearly. It had been Les Turner! He had crossed to the

Maple door and closed it as he went through.

Carl had taken advantage of the noise of Les's footsteps inside, and the confusion that would be there as the two men concentrated on each other momentarily, their senses unalert, and made his escape.

What had been behind that early morning meeting of the man in charge of the police investigation and the man who seemed at the heart of this mysterious group of twelve men? Carl had not dared to stay and find out.

And now, as he reviewed the situation in the light of last night's revelation, it seemed almost certain that his friend Les was under the control of these men. They had made a try at controlling a Judge. It would be logical for them to try to gain control of the forces of the law in any plans they might have for using the power they held—in the way they seemed determined to use it.

Had Les been one of those twelve the night before? The only face that had appeared in his mind besides that of Judge Porter, which had obviously been so vivid because twelve minds sensitized by the selenoid proteide had been looking at it, had been that brief flash showing the same face as that of the man he had seen that night in those offices. Les **COULD** be one of those twelve. But if he were, why had he told him about the four, and given him the location of their office?

Carl shook his head. That wasn't significant. Les hadn't expected him to pay a midnight visit to that office by himself without telling him about it. But just the same . . .

THE voice on the radio drew his attention. It was rich and cultured—the voice of a trained speaker, well educated. The sermon the man was preaching was nothing unusual and was

largely a repetition of truisms.

Carl thought of what Judge Porter had said about a superhuman entity forming from the union of those twelve minds—above them as the individual ego is above the neural phenomena of the nervous system of an arm.

His lips twisted into a crooked smile. A thing like that might appeal to this minister—only it wasn't something disembodied and supernatural, but the natural product of psychological law operating in minds joined by a bridge of positive contact which, though mysterious in its workings, was as definite and exact as radio broadcasting and receiving.

He visualized what would happen if he tried to explain it all to this man talking over the radio, and chuckled at what he saw all too clearly would happen. The fellow would think he was crazy.

He left the radio on and went outdoors. It would soon be dark. He walked around to the front of the cottage and went down the driveway to the road to get the envelope he had left in the mailbox. The driveway was narrow, taking a curved path through the trees instead of running straight.

The tall Pines sighed restfully as they swayed in the overhead wind and kept it from penetrating downward. It was peaceful—and lonely. There were a dozen houses within a radius of a quarter of a mile; but here on this narrow road in the Pines there was no evidence of their existence.

Carl walked along slowly, his hands in his pockets. He kept thinking about what Judge Porter had said. The idea of a superhuman entity or self-aware mind developing in the group mind of people in telepathic union or contact seemed more and more possible.

It would, of course, develop in the subconscious regions of the mind, what

might more accurately be called the superconscious regions, to distinguish it from the automatic habit patterns and reflexes that were the subconscious.

Carl began to speculate on what such an entity would be like. Would it be a resultant of the minds of the twelve men, in agreement with their ambitions and their murderous ways? What else could it be under the circumstances? Or was such a superhuman entity possible at all?

Whether it was or not, Carl felt that Judge Porter had planted the seeds of fear in those twelve minds—fear that such an entity would develop and rule them. Would it? Perhaps not. But was there a possibility that that fear could be played on?

Carl shied away from the thought of taking the drug until he too was permanently steeped in it and unable to break away from telepathic contact. It was too dangerous. Twelve minds against one—and inevitably they would discover he had joined them—or could he do it in such a way that they would believe him the superhuman entity and make it possible for him to control them in some way and end their plans for power and riches?

He shook his head uneasily. It was too dangerous. And there was no turning back if he did that.

He had reached the mailbox now. Still deep in his thoughts, he reached absently into the box for the envelope he had placed there the afternoon before. His hand slid along the smooth metal floor of the mailbox to the back.

"It's gone!" Carl exclaimed aloud. He looked inside the box. It was empty.

Had it been the mailman, after all? If so, and the postmaster opened it and read it, it would be enough to make the postmaster send out the sheriff. He had intended it to be mailed only if he were dead. Since he was alive the sher-

iff would think he had gone crazy.

He hurried back to the cottage and called the operator and asked her if she knew the name and phone number of the postmaster. After a brief silence she came back on the phone.

"The postmaster is Horace Fowler, at 432 B Street," she said. "His phone is 2-341. Shall I ring him for you?"

"Yes, please—and thanks," Carl answered.

He waited impatiently while the phone rang. It grew more and more evident that Horace Fowler was not home. The operator's voice came in again.

"He doesn't seem to be home," she said. "Should I try the post office? I think I see a light in the window over there."

"Please do," Carl said, grateful for the courtesies of a small town switchboard. This time the phone rang only once before it was answered.

"Hello?" a deep voice said.

"Is this Horace Fowler?" Carl asked. At the brief "Yes" in reply, Carl went on hastily. "I'm Carl Sprague. By any chance did an envelope—"

"Yes, it's here," Fowler interrupted him. "Ben saw your flag up Saturday evening when he went out to his sister's place and decided to pick it up rather than leave it in the box until sometime Monday."

"Well, don't open it," Carl plunged. "I'll be right in and pick it up."

There was a strained silence over the phone. Carl could hear his heart pounding.

"Well," Fowler's voice finally said slowly. "As a matter of fact—tell you what, Mr. Sprague. I'm just ready to leave. I'll drop out to your place with it. You'll be there, won't you?"

"Yes, of course," Carl said. "But—"

"Be there in about an hour," Fowler said with finality and hung up.

CARL found his heart beating like a trip hammer when he left the phone. It was less than a mile to town, and he had not bothered to get a car to go back and forth in. His own car was in a garage near the airport in Chicago where he had left it when he caught the plane.

He was neatly trapped with no way of getting away. If Fowler had opened that envelope, and from his tone it seemed obvious he had, he would probably bring the sheriff with him.

They would see the chair he had built to imprison him while the drug was working. That, and the contents of the letter would convince them he should be locked up. He wouldn't stand a chance. Even his credentials proving he was a scientist in his own right probably wouldn't change their opinion.

In a low and devout voice he cursed the obliging mailman who had picked up mail while off duty. In the same voice he cursed himself for not realizing that possibility and not leaving the red flag on the box down.

He considered the possibility of hiding out in the trees and decided they would only be all the more convinced he was crazy. The only thing to do was be there and meet whatever came.

A loud knock sounded on the door, startling him. His face pale and tense he opened it. He stood aside while several men walked in slowly. Each of them looked him over curiously as they came in.

"This is it," Carl thought bleakly. "He must have thought I would prove dangerous to bring so many with him."

No one said anything until they were in and he had closed the door. There were six of them. Carl closed the door and turned to face them.

"I'm Fowler," a slim, average appearing, middle aged man said, holding out his hand.

"Glad to know you, Mr. Fowler," Carl said, shaking hands.

It developed that two of the men were Mr. Fowler's sons, Horace junior and Fred. One was Sheriff Jones—Walt Jones. The last of the six was Reverend Peters who was also the mayor. Carl shook hands with each of them, trying not to reveal his nervousness. They acknowledged introductions with solemn faces that told nothing of their thoughts.

The introductions over, the six men stood facing him, silent. Carl felt the wetness of perspiration on the palms of his hands.

"Won't you sit down someplace, gentlemen?" he asked, and felt surprise at the steadiness of his voice. There was a general shuffling of feet as the men found places to sit down in the small living room.

"Ob, yes," Fowler said, reaching into his breast pocket. "Here's that envelope you wanted back." He held it out.

Carl took it wonderingly. It hadn't been opened! He turned it over, examining it to make sure. It hadn't been opened! He looked up, wondering why these men were here then.

"Uh, Mr. Sprague," the mayor, Rev. Peters, said. "We've been rather anxious to welcome you to our community. We understand," he looked at Fred Fowler proudly, "we understand that you are a very great scientist, having made several important discoveries in electronics. Fred is our local radio expert and is up on such things."

"Oh," Carl said, relaxing. "I see." He smiled broadly.

During the succeeding hour he devoted himself wholeheartedly to the task of making friends with them. He hinted at secret and very important experiments. With an air of utter frankness he explained that the experiment of Saturday and Sunday had been rather dangerous, and for that reason,

being a stranger in the community, he felt it wise to take the precaution of leaving instructions in the mail box to be found if he didn't come through O.K.

And while he talked and got them to talk, he studied them, sizing them up. When Fred Fowler confessed that the radio repair business wasn't too pressing in Junctionville, Carl repeated again that his work was very secret, but that he would be delighted to employ Fred to help him.

It was on that note that the men left. Fred was to return the next morning and work for him, understanding that the work was to be kept secret. Fred was twenty-two, had graduated last spring from the state college, and seemed serious and intelligent.

When they were gone Carl prepared himself a late dinner, revolving over in his mind the plan that had come to him while they were there.

Carl had found to his great surprise that Fred Fowler was not only willing to believe everything he told him about the strange effects of the selenium drug, but that he went even farther and evolved a plausible theory of the way it worked.

A week went by. A week filled with daily surprises for Carl. His plan had been to build a large number of skull shields of various kinds that could be slipped on and off. When these were finished he planned on injecting the drug again and having Fred cover his head with one after another of the shields in an effort to find something that could be worn to prevent mental contact while under the drug.

Fred suggested a better idea, a single cap of plastic with a hollow lining which could be filled with a colloid or a salt solution of the various elements. Further, it developed that Fred and Horace Junior had a well equipped laboratory.

Carl found himself talked into letting

Horace Junior into the secret also. Fred, twenty-two, and Horace Junior, twenty-four years old, were quietly intense, seriously earnest, quick to grasp things, and seemed to have an inexhaustible command of the latest improvements in everything from plastics to advanced physics.

When Sunday rolled around again Carl found himself practically commanded to have Sunday dinner with the Fowlers. He met Mrs. Fowler who happily confessed she had reared two young geniuses and had been completely lost in any attempt to follow their mental activities since they "grew out of their diapers" as she put it.

A mystery that had developed during the week was also cleared up during that first visit to the Fowler household. Fred, during the first two days of the week, and his brother Horace Junior when he joined the "Corporation," as Fred termed the work, had asked him in various ways if he were married. He had said no, and they had adroitly determined that he had no attachments to his affections.

The light dawned when he was introduced to Marie Fowler, the twenty-five year old sister. He had lifted his eyebrows and looked at the two boys who had looked back at him, unashamed. He had been amused at their match-making ideas, then slightly annoyed about it. It occurred to him during dinner that his annoyance came from a recognition that they might be right in that as they seemed to be in everything else.

Marie Fowler was also a college graduate. It seemed that the whole town of Junctionville consisted of families that raised children and sent them to college, and that that was the main purpose of living in this quiet community, to raise children and send them to college, and turn them into quiet, well bred young

people who were extremely intelligent and, underneath, intensely interested in things.

In Chicago Marie would have been strikingly beautiful. As Carl sat across from her at the dinner table he compared her to a masterpiece in an appropriate frame in a proper setting. In a way it attracted him to her. In another way it repelled him, as one might fear to touch such a masterpiece for fear of disturbing it.

Carl realized that most of his impressions were subtly conflicting with his big city outlook and his instinctive though unfounded dislike of small towns. He didn't like people to enter his life so abruptly and so positively, and with such obvious sincerity and regard for his welfare. He didn't like two young men sizing him up and letting him know subtly that they approved of him as a husband for their sister. He especially didn't like it because he wanted very much to ask her for a date. If he did he knew there would be silent nods of approval from the boys—and if he didn't he would feel like he had let them down—or something.

It was the instinctive dislike of living in a glass house with—not only one family—but the whole town looking on. And where could he ask Marie to go on a date? To the local movie house? He had picked up the local paper and found that every show they would have for the next six weeks was one he had seen at least a year before.

All this was building up in him as dinner progressed. It was there when dinner ended. Fred and Horace Junior, with perfectly obvious discretion and tact, departed quickly for parts unknown to be right back with something they wanted Carl to see—with an air of saying, "Don't worry. We will take our time about getting back."

Mrs. Fowler, with the same intent, said, "Horace, you help me with the dishes."

And so, feeling like a specimen on exhibit, with the entire town of Junctionville, a television camera, and a couple of newsreel cameras in the astral background, he watched the kitchen door close behind the smiling face of Mrs. Fowler. Then his eyes turned and locked with those of Marie.

They locked as something physical, the hooking of two freight cars on a railroad track, or the joining of two powerful electromagnets. And something flowed across, with the deep, silent force of a rushing stream, or the slow, ghostly strength of an ocean liner appearing through the fog.

With the abruptness of a change of scene in a movie there was nothing in the universe except Marie. As Carl expressed it to himself later that evening when he was alone, "Just like that!"

CARL opened the refrigerator door and took out four small bottles labeled A, B, C, and D. He pushed the needle of a hypodermic syringe through the rubber cover of A and pulled slowly on the plunger, measuring how much fluid he drew out . . .

With the four fluids in the barrel he pulled the plunger a bit further to make air space, and shook the syringe to mix the fluids thoroughly. Then he laid it on the small tray with the bottle of alcohol, wads of cotton, and a piece of gauze.

Fred and Horace Junior were watching him with wide eyes, their faces pale under their smooth brown tan. Carl grinned at them.

"If you think it might make you ill to watch—" he suggested. They shook their heads.

Carl carried the tray over to the table near the clamp chair and laid it

down. He picked up the plastic helmet Fred had made for him and slipped it on. It fitted snugly, coming down over his forehead to his eyes. In back and on the sides it went down in a loose fit well below his ears and the nape of his neck. At the highest point rose a tube that went up an inch and flared out to become a funnel. At the lowest part in back was a short valve and tube of plastic, ridged on the outside to hold a rubber tube securely.

With the helmet firmly in place he sat down in the chair. Fred Fowler attached a long tube to the bottom outlet of the helmet and ran it to a setup he had rigged for quickly filling the hollow space of the helmet with the various fluids he had lined up in gallon bottles, and replacing those fluids one after another.

Horace Junior brought over the tray. Carl picked up the hypo. His naked skin glistened with perspiration. Carefully he inserted the needle in a vein in his forearm.

"You understand, don't you," he said, hesitating and glancing up sharply. "Under no circumstances are you to free me from the chair before the clock sets me free twenty-four hours from now. Not even if I order you to. Not even if it seems I'm dead. You are to give me nothing in my fingers, and are to keep out of reach of them. And above all you are to keep as silent as possible."

"We understand," the two Fowler boys said quietly.

"And," Carl added, "in fifteen minutes you are to try the first fluid you have in the helmet, and try them one after another unless I tell you one of them works and cuts off the telepathic contact. But even then you aren't to release me."

The boys nodded.

Carl pushed the syringe plunger

down, forcing the fluid into his bloodstream. Fred placed the gauze over the skin puncture as Carl pulled the needle out, and fastened it with a short strip of tape.

Carl straightened in the chair and pressed the button that started the motor, closing the various clamps that would hold him. Again the smell of bacon assailed his nostrils.

His thoughts were full of panic. What if this shot made him permanently in contact, instead of just for a few hours? What if none of the colloids worked as a shield? What if nothing could? -

"One more thing," Carl said quietly. "If at the end of the twenty-four hours you both think I'm not myself and free of the drug, don't let the mechanism release. Keep me prisoner and call in your father and the sheriff."

When he saw the two nod he closed his eyes and concentrated on calming his thoughts. In spite of the increased hazards this second time, and the big unanswered question of how many shots it took to make the thing permanent, he at least knew what was coming. The memory of the other experience was vivid.

IT CAME in like an old time radio, dim, with a slow rise to full force. It was utter confusion of thought. It was, Carl sensed, the thoughts and impressions in twelve different minds thinking more or less independently.

At first he was unable to separate or even to isolate any of them from the rest long enough to know, actually, what any of it was. It was like twelve moving pictures being shown on the same screen at one time. It was like twelve radio programs coming through the radio with equal intensity at one time.

But he knew it could not seem that way to each of the twelve, so he pa-

tiently probed and tried to differentiate and isolate.

It did not interfere with his own thinking. It was separate, as the radio with twelve programs at once and the movie screen with twelve pictures scrambled together at once would be separate, and not prohibit thought.

He had no success at separating for a long time—perhaps an hour. Then suddenly he caught on to how to do it. It was a sort of mental "reaching out" and "settling."

After that, for a while, it was like standing near a group of twelve men engaged in conversation while they worked at separate tasks—men whose thoughts were connected with their tongues so that they always spoke their thoughts. If you wanted to "listen" to one you concentrated on that one, and the others retreated into the background of consciousness—still there—but not sensible.

Carl began to realize that those men, living in close and constant mental contact, had built up a system that enabled them to get along with it.

"Who was that?" a "voice" suddenly asked. The twelve minds became quiet, "listening."

Carl's thoughts froze in alarm. He had been discovered in some way.

Thoughts that Carl seemed to instinctively know to be those of the man, Mr. Wright, suddenly said, forcibly, "Which one of you is spying?"

The thoughts became hurred into a cacophony again for a moment, then quieted with a single thought in all twelve of those minds.

"None of us have been spying!" that thought said. There was incredulity, vague alarm, in it.

A discussion began. In split seconds it discussed the possibility of some of the Sepro having been stolen and used. "Sepro," Carl thought. "That must be

what they call the proteids."

The discussion dismissed that possibility with the argument that if it were stolen by someone, that someone wouldn't know how to use it. The discussion veered to other possibilities, settling on the possibility of someone else having discovered Sepro.

Each of the twelve minds was having uncomfortable memories of what Judge Porter had said, and studiously avoiding those thoughts.

An inspiration struck him. Why not pretend to be that superhuman entity that Judge Porter had predicted would form? He decided to try it. Concentrating every atom of his being into the effort he formed the thought:

"I am . . ." he cast around for something adequate and appropriate. Superhuman entity was clumsy. The initials would be better. "S.H.E.," he completed the thought.

Strangely, none of the twelve seemed to pay any attention to what he had said in his mind. They were still "listening" and discussing.

"I AM SHE," Carl repeated, pronouncing the word the letters spelled. Again, unaccountably, none of them seemed to have "heard" him.

He isolated each of the twelve minds, one after another, recklessly, and they seemed not to notice. Yet a few moments before they had been alarmed. They were still alarmed.

If they could not sense his open thoughts when he concentrated on one of them and "felt" the isolated contact, then—maybe Judge Porter had been right!

The next second he knew he had been wrong, but it was too late. He felt a flood of "force" clamp on his mind. It took over literally and with a sense of gloating triumph.

Helplessly he heard questions and heard his mind give the answers auto-

matically. They knew who he was, where he was, and all the details of how he had stolen the four bottles and analyzed their contents and arrived at the formula for Sepro. He "heard" Mr. Wright use the phone to order a private plane. And he knew they could get there before he was released from the clamps that held him prisoner.

Bitterly he thought, "My very precautions have doomed me to defeat."

Abruptly the thoughts coming in from the twelve men ended. There was not so much as a faint whisper of external thought coming in.

Numbly Carl wondered about it. Then suddenly the reason for it dawned on him.

"That's it!" he said, opening his eyes. "Whatever you have in the helmet now is the shield!"

QUICKLY he told Fred and Horace Junior what had happened. When he finished Fred asked:

"Should we let you loose?"

Carl shook his head. "Too risky," he said. "Those men together the way they are, are far smarter than any one man could ever hope to be alone. They've worked into some form of mental teamwork on the unconscious levels so that they can act without warning even when I'm in full contact with their conscious minds."

"What should we do then?" Fred asked.

"What you must do is get a truck," Carl said. "Blindfold me and put me on the truck and take me someplace without letting me know where it is."

"We could use dad's new truck," Horace Junior suggested to Fred.

"Before you do that," Carl said, "I want to try something to make sure. Drain the colloidal gold solution out of the helmet and I'll see if it's really that. Just drain it all out and then run

it right back in again."

He closed his eyes. A moment later the external thoughts were in his mind again. They were puzzling over the sudden ending of his thoughts a few moments before. And now, as they sensed him again they were even more puzzled.

It seemed to dawn on each of the twelve at the same time that the cause was a successful shield. The moment following that realization was filled with something Carl could not find words to describe.

Each of the twelve, as soon as he realized Carl had a shield, saw the next step. If they could get the secret of that shield they could have privacy when they wanted it.

They flooded into Carl's mind, demanding to know what the shield was. Helpless under their control, Carl was about to tell them, when suddenly something seemed to "settle" and take control.

It did so with an ease and positive assurance. There were no words, or thoughts that could be translated into words. There were still the thoughts of the twelve, and Carl's own thoughts—and something else that dominated—a force.

For a pregnant moment the mental impressions were there, static, yet with an aura of mental force and power beyond description. Then it was all gone. The gold fluid had gone back into the helmet again.

Carl opened his eyes and whistled softly. He told Fred and Horace Junior what had happened.

"It was there," he concluded his description. "It was just like Judge Porter told them it would be. When it realized that a shield had been discovered and that each of the twelve minds that together produce it can be isolated and thus destroy it, it stepped in and gave

up its secrecy for self preservation."

"They'll get out here all the quicker now," Fred said. "That super mind, SHE, will be all the more anxious to kill you now and destroy everything connected with you."

"That's right," Carl agreed. "You'd better get busy or they'll catch us. I'm sorry I got you two in this with me. They know about you, too, and will try to kill all of us to make sure their secret is safe."

"If we could capture the lot of them and put shields on them," Fred said, "they'd probably be so glad to be free that they'd keep them on."

"There isn't time for that," Carl said. "They'd be here before you could make the shields."

"Go get the truck, Horace," Fred said quietly.

"WHAT'S Junior in such a hurry about, I wonder?" Mrs. Fowler said, pulling back the curtain at the kitchen window as the sedan pulled into the yard and skidded to a stop.

Marie Fowler closed the oven door and joined her mother at the window in time to see Horace Junior jump out of the car and run into the garage. A few seconds later the truck motor started.

"I'll go ask him," Marie said.

The truck was backing out of the garage when she reached the back porch. She ran down the steps and across to the driveway.

"What's the hurry, Junior?" she called.

Horace Junior heard her and stopped the truck.

"Haven't got time to explain now," he answered. "And Fred and I will probably be late for supper. Don't wait for us."

The truck started up again.

"Wait!" Marie called, vague alarm in her mind. Horace Junior waved

goodbye to her as if he hadn't heard her. In a moment the truck was out of the driveway and speeding down the street.

Marie watched it go, a puzzled frown on her face. When it was out of sight, headed toward the highway leading out toward Carl Sprague's cottage, she returned to the house.

"He said he and Fred would be late for dinner," Marie answered Mrs. Fowler's questioning look.

"Something must have happened," Mrs. Fowler remarked. "It isn't like them to use their father's new truck like that without stopping to say what they were going to do with it." She shrugged her shoulders. "Oh, well, Now I can use the car for my shopping. Maybe I'd better go now before they come back and get the car too."

Marie was at the window, looking thoughtfully in the direction where the truck had gone. In sudden decision she went over to the stove and set the clock to shut off the oven when the roast was done.

"I'll drop you off, mother," she said, taking off her apron. "I—I think I'll take a little drive."

It was a half hour later that she turned off the highway into the right road. She hadn't been sure of which cottage it was, and had driven too far. Now, as she steered the car over the winding course through the trees and drew up beside the cottage she still wasn't sure.

The truck wasn't here. The soft earth held tracks of new tires, truck tires. Marie got out of the car and went to the front porch. The door was unlocked.

"Carl?" she called.

She waited a moment and then went in. Doors were all open. In one room was a wire recorder, shelves of chemicals, and along one wall were a dozen

or so large bottles filled with what Marie labeled "different colored aluminum paint."

One of these bottles was overturned and half its contents formed a still widening pool on the floor.

"I wonder what could have happened?" she exclaimed aloud.

As she spoke her eyes happened to rest on the wire recorder. It was still on, and the spools started turning the moment she started to talk. Her eyes lighted up with discovery.

She went over and examined the recorder. Should she run the wire back a way and play it, and perhaps find out where they had gone?

"In a way it would be snooping," she thought. She pouted at the wire, glistening up at her so innocently with its secrets, then, with a determined glint in her eyes she ran the wire back and started it up.

"Should we let you loose?" Fred's voice sounded through the speaker.

"Too risky," Carl's voice answered. "Those men, together the way they are, are far smarter than any one man could ever hope to be alone . . ."

IT WAS the newest type of auxiliary jet passenger plane. The twelve passengers sat in one group half way back on the lower deck, the expanse of empty seats making the interior seem even larger than it actually was.

They sat wooden faced. The stewardess had long since given up and joined the pilot and copilot, not realizing that behind the silent, somewhat hostile faces a twelve way conversation went on continually that covered more in seconds than could be spoken in the same number of minutes.

The twelve way conversation concentrated on that single manifestation of what even they now called SHE, the superhuman entity that had developed

from the union of their twelve minds.

There was some disagreement among them. The general trend of their conversation had been in favor of SHE as an ally. Mr. Wright had expressed what they all knew anyway when he had said:

"After all, SHE is the resultant of our own minds and an added strength—rather than an enemy holding us in bondage. We all know that if we had a shield, treachery, desertion, and eventually destruction would result. SHE, realizing that, protected us against ourselves."

"You're right," Charles Ritter, the man who had discovered the Sepro drug, said. "If we accept SHE as not only an ally, but as our chief, as it actually is, we will all have much better mental health from now on. The thing is really too big for us. Well," he chuckled aloud to emphasize his remark. "It isn't too big for SHE!"

And now the plane was losing altitude. It had taken only an hour and a half to go the thousand air miles. A DC-6 was circling the field ahead, held up in its scheduled landing until their plane came in. The pilot had radioed ahead for clearance, and for cars to be there.

The plane landed smoothly and went across the field to a spot near the depot. A uniformed attendant led the twelve silent men to the three sedans. It was all smooth and efficient and well oiled.

The twelve asked no questions about directions. There was no need to. From Carl Sprague's mind they had experienced the landing before, and also the trip from the airport through town and out the highway to Junctionville, twenty miles away. They had experienced it in seconds in their probe of his mind, and there was twelve-way protection against forgetting any detail of it, because if only one remembered a single fact they

could all recall it easily enough.

They didn't enter Junctionville, but circled it on side roads. On the other side and on the highway again they drove confidently until they came to a mail box as familiar as if they had themselves seen it many times before.

The three cars slowed and turned boldly into the narrow lane. The driver of the lead car saw the sedan parked by the cottage. Twelve pairs of lips twisted into vicious smiles simultaneously.

The lead car slid smoothly around Marie's parked car to the back of the cottage. The other two stopped behind her car.

Mr. Fields opened the door of the car he was in and slid his bulky body out.

"Keep me covered," he telephoned.

Taking out a spotless white handkerchief and waving it before him he walked slowly to the front porch. Frowning slightly at the lack of life from inside, he stole silently up the steps onto the porch. The front door was open. He stepped inside.

"Take it easy through the door, Fred," a male voice sounded from the nearest doorway.

Pocketing his handkerchief, Mr. Fields drew a flat automatic and stole softly to the door and looked in. Across the room a young lady stood with her back to him, listening to the voice from a wire recorder.

"Marie Fowler, I presume?" Mr. Fields said, stepping through the door. From outside came the sounds of car doors slamming shut. Footsteps sounded firmly on the front and back porches.

"YOU sure you'll be all right, Carl?"

Fred asked anxiously. "I won't tell you where you are because you asked not to know, but no one will be near this place, and even if they are

we'll spring the latch as we go out. Did we forget anything? Your clothes are here. The electric clock is hooked in so even if we didn't get back for any reason you'll be freed at one o'clock tomorrow afternoon."

"Can't think of a thing," Carl said cheerfully. "You two take care of yourselves now," he added sharply. "I don't know how much they got out of me, but when they find me gone they'll start looking, and they may try your house first."

"Don't worry," Horace Junior spoke up. "They can't get here until evening unless their plane is a jet job and they have cars waiting for them at the airport and violate the speed laws getting here from the airport." He looked over at the electric clock. "It's nearly supper time. We'll come right back after supper and bring you some."

"It's certainly tough he has to stay in that thing," Fred said as he steered the truck over the rough road around a hill and back to the highway. "I feel a little uneasy about leaving him there. Think maybe one of us should have stayed?"

"It's better this way," Horace Junior said. "There's no phone there, and this way we can see what's what, and maybe just one of us go back after supper while the other takes care of things."

Traffic on the highway was light. Three sedans passed them, hugging together.

"Some drivers are damn fools," Fred commented. "With all the miles of highway—empty—you'd think those cars would have more sense than to be so close together."

"Probably saw us coming and waited until we got by before passing the lead car," Horace Junior said.

They went by the turn-in to Carl's cottage without slowing down. Five

minutes later they pulled into the driveway at home.

"Hi, mom," they said as they traipsed in the back door. "Hi, dad. Where's the car? Marie go some place?"

"Isn't she with you?" Mrs. Fowler asked, surprised. "She dropped me at the store three hours ago, and I thought she was going out to Mr. Sprague's cottage."

Fred and Horace Junior looked at each other, their faces suddenly grim.

"What's the matter, boys?" Mr. Fowler asked. "Is something wrong?"

"No, dad," Fred lied.

"Of course not," Mrs. Fowler said cheerfully. "Can't you see they weren't there? I'll bet Marie and Mr. Sprague got to talking and she doesn't realize how late it is."

"Yes, mom," Horace Junior said quickly. "That must be it. We'll take a run out and tell her supper's ready." He started for the back door.

"I—I gotta get a clean handkerchief, Junior," Fred said. "See you outside." He gave his brother a meaningful look and went toward the door to the upstairs.

Mr. Fowler watched his two sons, frowning, but remained motionless, seated on the edge of the breakfast table.

"It would be nice if—if, well, you know, Horace," Mrs. Fowler said, putting the roast back in the oven. "Junctionville is so small and there really aren't any men here for Marie."

"Yes, I know," Mr. Fowler said gruffly.

Fred came downstairs blowing his nose loudly on a clean handkerchief. He paused briefly.

"Why don't you two go ahead and eat?" he suggested. "Who knows? Maybe we'll get to doing something out there and all eat a snack and not be home until late."

"Sure, let's do that, mom," Mr. Fowler said to his wife.

He followed Fred to the back door and stepped out on the porch with him.

"Well," Fred said uncomfortably. "Take it easy, dad."

"I have a lot of faith in you two boys," Mr. Fowler said quietly. "If you need me for anything—I'll answer the phone before mom gets to it."

"O.K., dad," Fred said. He turned away and went to the truck. When he climbed in Horace Junior was loading the two rifles he had dropped to him from the window of his room.

The truck was back on the highway before Horace Junior finished loading both guns. A minute later Fred stopped the truck on the highway by the mail box.

"I'll cut straight in," he said, getting out on the driver's side while his brother got out on the other side. "You circle around and come in the back way."

Ten minutes later Fred circled the house cautiously. It was dark and deserted. He gave a low bird whistle. It was echoed from nearby and Horace Junior joined him. They went to their car which Marie had driven out. Getting the flashlight out of the glove compartment they searched the cottage.

Things seemed just as they had left them. They grimly searched every room and closet before leaving. Outside they explored the ground with the flashlight and found the tire tracks of the cars that had come in and gone.

"They've got her," Horace Junior said quietly.

"I've never killed a man," Fred said tonelessly. "But I rather imagine it won't be as bad on me as my first deer was. We'd better call dad."

They went back into the cottage.

CARL listened to the truck drive away and mentally cursed the

safety precautions he had forced on Fred and Horace Junior that left him a prisoner while twelve men crossed the country in a plane to kill him.

In his own mind he knew the shield formed by the colloid gold fluid in the hollow plastic head cover was perfect. He could just as well be free and doing something about it.

He resigned himself to wait, though. Those twelve men would drive right out to the cottage and find him gone. They would be temporarily stymied and probably wait there, hoping for something to turn up. There was no immediate danger, and there was little likelihood of danger developing until the next day.

As darkness came he began to be uneasy. Fred and Horace Junior would certainly have been back before now. The electric clock said a little after eight.

He began, hopelessly, to see if there might be some way to get free. The only possible way open to him would be to get to the electric clock setting on the table a few feet away. It contained the switch that would start the motor which would open the clamps that held him prisoner.

Experimentally he tried swaying his body as much as the clamps would allow in an effort to start a rocking motion of the chair. Twenty minutes later, covered with sweat and exhausted, he was actually a couple of inches farther away from it than at first. The floor sloped, and it was impossible to guide the slight lurches of the chair legs. The chair was back-heavy with the motor. It had come within a hair of tipping over once.

He looked at the clock again. It was almost eight-thirty.

The first time he had taken Sepro its effects had worn off about this long after he had injected it in his arm. Its

effects were cumulative, so perhaps it would still be working. There was one way, he knew, of finding out what was going on. If he could spring a leak in the helmet and cause the colloid solution to leak out he could know what the twelve were doing.

Since he didn't know where he was and was unable to move there was nothing they could do to him and he would be able to follow their movements.

He twisted his head exploratively. There was about a quarter of an inch play. That was not enough for any violent knocks against the helmet. It did allow room for exerting steady pressure, though.

Another idea came to him. He stretched his head up as firmly as he could, bringing pressure against the top of the helmet where it was held against the top clamps.

Suddenly the external thoughts came flooding into his mind. He relaxed with relief, thinking he had finally caused the colloid to leak out some place. The external thoughts faded and were gone.

He realized then what had happened. Pressing upward had brought the inner and outer shells of the top of the helmet close together, forcing the colloid solution out of some area where the telepathic force, whatever its nature, could enter his brain instead of being turned away or absorbed by the gold.

That was even better, he thought. He could snoop on the thoughts of the twelve and get away from them by a foolproof method, because fatigue would force his head to relax in a short time even if the twelve tried to force him to remain in contact.

He rested for a few moments and then pushed his head up firmly.

MARIE FOWLER had turned the wire recorder back and started playing it with a feeling that it was

snooping and she shouldn't. Under ordinary circumstances she would never have considered doing it. But she knew her brothers and therefore knew that something was wrong. The tipped over bottle of metal "paint" that had been left without being cleaned up, and other evidence of hurried departure from the cottage, were not ordinary circumstances.

The very first words that sounded as she played back the wire dispelled the last of her compunctions. Fred had asked Carl if he and Junior should let him loose—implying that they were keeping him prisoner!

She listened then with full concentration, trying to make sense out of the fragments of speech which were often meaningless without the actions that accompanied them. Slowly the picture unfolded in her mind. She listened to the end, and then ran the spool back to its beginning and listened all the way through, getting the whole picture.

It did not need to tell her where Fred and Junior had hidden Carl. She knew them too well to have to guess what they would decide in this situation.

Not realizing the passage of time she let the wire run on to the end while she tried to decide what she should do, if anything. She had a great deal of confidence in her brothers and was half inclined to go back home and do nothing for the present, even though she wanted to rush up to the hunting lodge and see if she could help in any way.

She had finally decided that was what she would do—go home—and was reaching to shut off the wire recorder, when a strange voice sounded from the doorway.

In her common sense mind she had not quite accepted what the recorder said—that there was a drug called Sepro that made telepathy possible. She had accepted it intellectually and

doubted it emotionally. The suave, deep voice from the doorway saying, "Marie Fowler, I presume?," and the sight of the heavy figure standing there, a sickeningly serene smile on the fat lips, completed her acceptance of all the facts she had learned.

"Yes?" she said politely, hiding her thoughts and her alarm. The sounds of car doors slamming outside drove home to her the complete helplessness of the present situation.

The heavy figure in the doorway waited until sounds came of footsteps on the front and back porches. Then he stepped into the room and bowed imperceptibly in a ludicrous form of courtliness.

"I'm Mr. Wright," he said. "I'd expected to find Carl here. Do you know where he's gone?"

"Why—they didn't say," Marie answered, falling into the same mood as a mask. "I was just waiting for him myself. He should be along any minute."

"Then we'll wait," Mr. Wright said. There were other figures behind him in the doorway now.

"Then I think I'll run along," Marie said. "You will probably have business with him and I must get home." She walked toward the man as if she was fully confident he would step aside.

He did step aside, but others blocked the doorway, and he was standing behind her. She was hemmed in. Even then she didn't let on that anything was amiss.

"These are also friends of Mr. Sprague?" she asked, half turning, and smiling at Mr. Wright.

"Are you sure you don't know where he is?" Mr. Wright asked quietly.

"I told you they didn't tell me. They weren't here when I arrived," she answered, pretending annoyance to cover her growing fear.

Mr. Wright took out a cigaret. His

lighter as he lit it illuminated his face in such a way that it seemed diabolical, the pig-like eyes glittering at her evilly, the fat lips seeming to leer sensuously.

Marie turned her back on him and stepped toward the men in the doorway.

"Will you pardon me, please?" she said firmly. They made no motion to step aside. Fat arms encircled her waist from behind. Lifted off her feet, her self-control deserted her. Screaming and kicking she was carried across the room and tossed onto the table.

SHE was held down while fat fingers rolled the sleeve of her dress up above the elbow. Her arm was held rigid on the table.

A small flashlight was turned on her arm. A gleaming needle appeared in the circle of light. It paused, and then was pushed into her arm. The plunger of the syringe pushed a liquid out through the needle. Fingers laid a piece of cotton over the spot where the needle entered the skin, and the needle was drawn out. Seconds later a strong odor of hacon assailed her nostrils.

They stepped away now. Shakily she got off the table and stood leaning against it, brushing her hair out of her eyes.

They stood looking at her, saying nothing. They seemed to be waiting for something to happen.

Suddenly her arm shot straight out. It had done so without her volition. She tried to lower it, but it remained there for a moment against her will. Then, just as suddenly, she had control of it again.

"You will now come with us," Mr. Wright said. His tone was crisp, impersonal. "I believe you know enough of what is going on so you realize now that you cannot escape, and that we can control your actions even at a distance. We could turn you loose and

still retain control over you. However, we have concluded that your physical capture will prove more effective in smoking out Mr. Sprague, and in keeping your brothers at a distance."

She went obediently. She saw her brothers pass in the truck and cried out to them. The men in the car took out heavy automatics and watched the truck to see if it would slow down. It continued on without slowing. They put their guns away. No word was spoken.

The silence of these men was the most terrible thing of all, Marie thought. It made them seem machines instead of humans. She realized that they were probably continually exchanging thoughts, and perhaps speculating about the truck and what it would do—whether it would turn in at the cottage or go on to Junctionville, and where it had come from.

Maybe they would make a good guess where it had come from and find Carl. The thought made her feel cold. Their sole purpose in being here—in kidnapping her—was to find Carl and kill him and destroy his knowledge of their secret drug. If they were looking for a vacant house off the highway where they could hide, they might turn off and pick the hunting lodge where it was obvious her brothers had taken Carl.

The turn-off was just ahead around the bend. Marie's heart began to beat rapidly. She kept her eyes on her knees, not daring to look out the car windows for fear of giving herself away.

The car braked suddenly and turned into the side road. Dismay filled Marie's mind. They KNEW, she thought. The other two cars turned in and followed them.

The road led in through the trees a quarter of a mile before starting uphill. After a short climb there was a flat spot

that was used often as a picnic ground. It was high enough to overlook the highway for miles.

When the three cars turned in at this spot it was difficult for Marie to conceal her relief. Her relief was only momentary. As they settled down she realized that her brothers would have to come back this way to get to Carl, and would be waylaid. These men would add things up and search farther up and find Carl.

Time stretched into eternity. Darkness descended slowly. One by one stars appeared in the cloudless sky, and in the east a mammoth moon rested on the horizon.

MARIE sat huddled between the two silent men on either side of her in the back seat of the car, her mind dwelling on what must be happening below.

She must have been missed as soon as her brothers got home—or before that if they stopped at the cottage and saw the car there. Assuming they went straight home instead of stopping, Marie speculated, mom would ask why she hadn't come too. Mom had guessed she was going out to the cottage when she drove away.

Knowing her brothers she knew they would say something to smooth things over, and as soon as possible they would make an excuse to go out to the cottage and look. They would see the car there, and the tracks of the other cars.

Then, Marie speculated, they would go home and get their hunting rifles. They might take dad to one side and tell him what they thought had happened, give him the task of notifying Walt Jones, the sheriff, and then would probably come back out here and get Carl.

They wouldn't be expecting these men to be here, hiding. If they came in the truck these men would know who

it was. If they used the car they might not.

So Marie watched the lights on the highway, miserable with dread. Her ears listened to the night noises of the forest. And the four men in the car with her were nameless, immovable shadows.

Suddenly something warm touched at her mind. It was not a thought or a feeling, but something too tenuous to describe. It was gone as soon as it had come. It left her feeling vaguely excited and unaccountably happy—and puzzled.

At the same time twin lights down on the highway slowed and turned into the road headed toward her. Her mind filled with dread, she watched the light creep forward through the trees in spasmodic movements.

Would it be both Fred and Junior? There was silent movement in the car as each of the four men took out his gun and clicked off the safety catch.

A motor roared as gears were shifted at the foot of the hill. It was the truck! There would be no hope of the men not recognizing it!

It came toward them, its lights flashing into the windshield momentarily, then veering away and pointing up the hill as the truck made the slight turn. The truck continued on, the sound of its motor growing fainter.

"All right you in the cars. Come out with your hands up, you're surrounded." The welcome voice of the sheriff split the darkness with shattering suddenness.

There was a grunt of surprise from one of the men in the car with her. A moment of utter silence followed. It was punctured by a single rifle shot. A strange tremor suddenly shook the men beside Marie. Fred's voice followed it.

"One of you is dead now," his voice said with cold deadliness. "If you so

much as harm a hair of my sister's head I'll kill all of you in cold blood!"

"He killed Greg!" Mr. Wright, in the front seat beside the driver, said aloud, unbelievably.

In that moment of stunned silence Marie felt the strange warmth enter her mind again—and remain. Instinctively she felt it was connected with Carl, yet there was no thought with it, or anything except a strange sense of mental warmth.

Her right hand moved independent of her will. Her eyes wide with wonder, she watched her fingers open and close. Her arm lifted upward and to the side, her hand coming to rest pointing toward the side of her head. Her index finger jerked suddenly. A roar deafened her. Something hit her violently. There was nothing in the Universe except darkness and a strange warm feeling that seemed to come from far away.

CARL was hovering over her. It was Carl, but he was different—Godly. His face was glowing. There was a gold crown on his head. She studied the crown. It was like a helmet—a football helmet, in a way—except that it was solid gold. There was something above it—a gold stem with a gold flower on top. And gold droplets were glistening at the lower edge of the flower. They were dripping and flowing into the gold crown.

"Marie!" Carl's voice sounded.

Suddenly she realized it was real, and not a vision—or something after death. She blinked her eyes and looked around. She was lying on the grass, her head and shoulders cradled on Fred's lap. There was a fierce, fiery light in Fred's eyes. She turned back to Carl's face and saw the same look in his eyes.

Memory flooded back. She struggled to a sitting position and looked around.

"Those men," she whispered, her eyes seeing the three cars, lit up by the headlights of the truck.

"Forget about them," Carl said softly. His voice was strangely different. Different! She suddenly realized that his lips hadn't moved as he spoke. She looked at him, feeling that warmth in her mind. He had taken off the golden helmet.

She looked in his eyes and a slow flush spread over her face—but she didn't turn away. She held out her hands and Carl took them, lifting her gently to her feet.

Sheriff Walt Jones coughed uncomfortably and said:

"I'm awful sorry about what I have to do, Fred. You shot a man, and I have to arrest you. I don't think any jury will convict you, but I have to do my duty."

"Ain't you a little hazy in your mind, sheriff?" a voice spoke nearby. "Maybe the shock of your noble deed has affected you."

"What d'you mean?" the sheriff said sharply. "I'm only doing what I have to do."

"I mean your killin' that man when he tried to escape, instead of shootin' hisself like the others," the man said. "We all seen you do it, didn't we?" He looked around for confirmation.

There was a chorus of agreement.

"Sure," another voice said. "It would be kind of silly to take Fred in for a killin' you did yourself when we all seen you do it."

"Guess you're right at that," Walt Jones said, rubbing his whiskers thoughtfully. "It would be kinda silly." He chuckled suddenly. "Especially with so many witnesses."

He looked down at the golden helmet resting on the grass.

"Mighty funny contraption," he muttered. "Funny the way those men all

killed themselves at once that way, too." He started to move off. "Almost as funny as me killing that man and thinking Fred did it," he drawled dryly.

THE truck bounced roughly over the last few feet of dirt road and turned onto the highway. Horace Junior was driving. Fred sat in the middle. Carl was on the outside, with Marie on his lap. The moon was well up in the sky. The truck tires began to bum as the car picked up speed.

"I—I tried to get loose when you didn't get back," Carl broke the silence. "I couldn't, of course; but I found that by stretching my neck I could push the two layers of the top of the helmet together and thin out the colloid solution enough to get through and find out what was going on. I got through just before Fred—I mean sheriff Jones—shot that man. They had been too occupied to notice me."

"Their minds were absolutely stunned by the death of one of them. I imagine SHE was momentarily paralyzed, too—or maybe vitally disrupted. Anyway, I did something on the spur of the moment. I vividly thought out and acted the motions of putting a gun to my head and pulling the trigger. I couldn't move, of course, but I could send the impulses to my muscles. I—I

didn't hope for success. I just thought it was the only thing open to me. And they all did it."

"I did it too," Marie said. "It was awful. I knew my hand was supposed to be holding a gun. I watched it move up. It was so vivid I couldn't even be sure my hand didn't hold a gun. And when my finger moved to pull the trigger, and there was an awful roar—"

"I guess there was, sis," Junior said, calmly interrupting her. "Four forty-fives went off at once in the car you were in. That would make an awful roar all right. Bet you thought you were in Heaven when you opened your eyes and saw Carl wearing the golden crown . . .", he added slyly.

"I didn't either," Marie said spiritedly. "At least not after the first second or two."

A soft voice whispered in her mind. It said, "I love you, Marie." She bent her head and kissed Carl.

Suddenly she straightened up.

"You have some more of that Sepro, don't you, Carl?" she asked.

"Yes," Carl replied. "Lots of it. Why?"

"Because I want to take another shot of it when this one wears off," she said. And she got quite red in the face when her two brothers burst out in laughter.

THE END

WHIRLING WHIPS



By MARTY MESNER



THE red tides that struck the Gulf Coast of Florida in 1947 killed thousands of fish. We might think that it was just the force of the water or that they were carried out of their natural waters that caused their deaths. But that was not the case. These strange tides were colored red by millions of tiny red organisms belonging to a family called Dinoflagellates. Their name means "whirling whips" and explains how these one-celled creatures move about. They have two long whip-like hairs that stick out

through a hard shell. By whirling these hairs around like propellers, they are able to move through the water.

These creatures, even though they are one-celled, give off a poison that is fatal to fish if there is enough of it. These organisms multiply very quickly and their great number colors the water and kills the fish that are within their range. As a rule, there are not so many around, and the poison is so diluted by the sea water that it is harmless.



PERIL in DRAGONIA

By MOLLIE CLAIRE

Only in the Mountains of Eternal Snow was there a sanctuary for Low Motse — for the terrible day had come when Dragonia was to be destroyed . . .

MYRIADS of years had left their tribute of soil on the gaunt and angular lava ridges that encircled the Valley of Teewaukan. From this had sprung a thick mantle of jungle that covered their unlovely out-

lines imparting to them something of grace and beauty. Lush meadows and cultivated fields sprang from the fertile soil of the lower levels and orchards and groves of umbrageous trees. White, coralline highways stretched between



She knelt beside the still figure, oblivious of the terror and panic surging around her . . .

her shining cities and villages. The home of the Lady Tooella lay on the outskirts of the beauteous city of Amatlan, half-hidden by her flowers and palms and tropic vines and shrubs, with the blue, amorous waters that embraced her lapping softly at the white shingle of her suburbs with sibilant sounds like tenderest lover-like kisses, and exquisite, unintelligible murmurings.

At early dawn the Lady Tooella and Yumatzin, her tall, dark lover of regal bearing, left the home of Teemax, the Wise, and proceeded afoot through dewy meadows, through groves of palms and heavily laden banana and other fruitful trees, to the Temple of the Father-Mother God. The air was fragrant with the scent of innumerable flowers, the tang of ripened oranges and the musky perfume of bananas. As the first rays of the sun touched the flower-laden altar they pledged their loyal devotion to each other for life, alone, unseen of other eyes, and wrote their names in the great Book of Love, the Register of Marital Relations, upon the altar. Thus they entered upon their union which had been sanctioned and blessed by the parents of both. The people of Neenitlan considered it indecent and lacking in the essentials of good taste for the newly-wed to make a public spectacle of themselves for the amusement and jibes of the vulgar. It was looked upon by them as a relic of the customs of a semi-barbarous age.

They entered the airship which awaited them at the temple's portal, fashioned in the shape of a white horse with widely spreading wings. The loving hands of friends had wreathed the neck of this aerial courser with garlands of lovely flowers; they had provided the choicest fruits and most delicate and delicious viands in profusion for the journey of the lovers and crystal

flasks of the unfermented juice of the pomegranate: for the people of Neenitlan, having arrived at a state of true civilization, used no spirituous liquors for beverages. They would have shrunk in horror from the idea of imbibing a liquid that had the peculiar property of reducing the drinker to a state of temporary insanity.

Their great white horse traversed the heavens more fleetly than was possible for the swiftest bird of passage, tireless, needing no rest nor sleep. At night its eyes appeared like two wondrous golden moons that lighted up the earth far below them. In its neck was the equipment for communication with far distant friends and for rendering them visible when it was their pleasure, and at such times as they were presentable. When it landed its feet ran smoothly along the ground until it came to rest without any ruder jar than that of the lightest canoe when its prow touches the shining border of some level, sandy beach. In each of its hoofs was a fragment of the curious moon metal which possesses the property of attracting water as the strange stone that points ever to the Star of the North and guides travellers on their way on the darkest nights and in cloudy weather, draws the iron unto itself. It makes the water to gush from the earth in the most arid and unpromising regions, as the moon draws the tides of the seas, preserving the lives of travellers who must otherwise perish of thirst and rendering the desert habitable and fruitful.

The science of machinery had been highly developed in the land of Neenitlan. The people possessed gigantic machines of wood and iron and other metals unknown to my countrymen of Dragonia, in the form of oxen and other animals in which hundreds of men might be speedily transported to the scenes of their labors at great distances

from their homes or to wage war on enemies, or to transport the products of their toil. They had weapons fashioned in the shape of bows that would loose a multitude of arrows at one time. For water journeyings they had vessels that could travel beneath the waves, constructed in the semblance of whales and other gigantic fish and aquatic animals.*

They had discovered the secret of that mysterious force that binds men to the earth and brings all falling objects to rest upon this planet. By neutralizing it they rose to any desired elevation and propelled their aerial vessel by means of a fuel so concentrated that an amount that could be contained in the smallest water glass would carry them around the earth at any speed considered desirable. For lighting their cities and temples and houses they had ever-burning lamps which burned for a thousand years without fuel of any kind.

YUMATZIN touched a knob. A whirring sound ensued such as might have been occasioned by the wings of a million hummingbirds. The white steed rose gently into the air. Slowly they circled beauteous Amatlan, the city of their birth where both had studied at the University, the greatest seat of learning on our planet. Through their magic glass as my countrymen later came to term it, they perceived their homes, the stately palaces of the rulers and Wise Men and the dignified and noble beauty of the public buildings.

They stopped a few days to visit friends in sister colonies to the north, then winged southward, across one of the most stupendous mountain ranges in the world, nearly as lofty as our own

Mountains of Eternal Snow; hovered above a mighty river whose waters were almost hidden for the greater part of its course by the limitless dark jungle that lined its bank and spread for hundreds of miles on either side; flew over wide savannahs covered with gigantic grass whose seedstalks waved like graceful white plumes in the soft breeze. Then to the eastward they journeyed to the land where the black races of mankind dwell; off again to soar above those lands where the inhabitants are clothed in skins and live in caves and slay and eat the gigantic elephant with shaggy coat; and thence to my own beauteous home land of Dragonia.

The policy of our statesmen was one of isolation, so far as foreign relations went. Never from the dawn of recorded history as far as any sinologue had been able to discover, had Dragonia welcomed the stranger from afar. No intercourse with other lands was permitted. To the East and South the great seas gave some measure of protection; to the West rose Nature's own lofty, ice-capped, insuperable bulwarks. Elsewhere, for thousands of miles, Dragonia had erected stupendous and closely guarded barriers, effectually harring foreigners from entrance.

People of an ancient civilization though we were, our highways were in the most deplorable condition. Without adequate means of transportation, the masses huddled in the most congested portions of the country, in the coastal regions and along the waterways of our great rivers, like rabbits in overcrowded warrens. They were for the most part, people of simple needs. The great majority owned their small, self-supporting farms. Nothing was imported from other countries. The most primitive agricultural implements were in use, the wooden plow, the sickle

* "China's Story," by William Elliott Griffis.

and flail. Naturally, most of their time was consumed in arduous and incessant labor for the purpose of providing sufficient food, clothing and shelter for the mere preservation of life and its reproduction, an animal-like existence whose contemplation revolted a scholar or those who engaged in the pursuit of pleasures other than those of the intellect and often directly opposed to them.

This congestion and rapid increase of our population was becoming a matter of concern to our elder statesmen. Great tracts of land composed of the most fertile and fruitful soil remained almost unpopulated in our western domain, or if tenanted at all, it was by primitive and savage portions of our population who chose the tangled forests and rock fastnesses which were also the abode of ferocious wild beasts of all kinds, in preference to the plains where greater toil was essential for a bare existence and means of concealment were not so readily available.

Many times had the Lady Tooella turned the head of her aerial courser towards the Land of Dragonia, allured by the inexpressible loveliness of its widely-spreading and intensively cultivated river bottoms, its shining rivers, its picturesque cities and the soft contours, the seductive curves of beauty of its verdure-clad and flowery hills. But a landing would have been fraught with extreme peril. Times without number she had considered ways and means of overcoming the hostility of its inhabitants but no solution had ever presented itself. Often as she had soared above the fair valleys the inhabitants had launched their arrows at her "magic horse" as they termed it. Now she and her lover turned the head of the white steed towards the land of mystery. Tragedy rode with them, sorrow and hunger and pain and death, but they knew it not.

CHAPTER II

Little Cho Sen

THE eastern heavens were as pink as a poppy petal, with the dawn when little Cho Sen rose from his pallet on the earthen floor of his father's small farmhouse in the midst of its tiny strip of emerald meadow, its rice paddy, its fruit trees and its garden. The breeze blew up the lazy stream that wound sinuously past the little farm, sweet with the fragrance of innumerable river scents. Tiny crystals of dew sparkled on the lush grass. In a pool by the river's brim floated the perfumed blossoms of the sacred white lotus. Cho Sen stooped to scent the charming little white roses with the green centers, so beloved by his hardworking mother. In the distance rose palm and bamboo above the walls of a rich man's gardens. Nearer at hand was an ancient temple with red-tiled roof softened artistically by time, where always the temple bells swung musically in the breeze; and beyond all that were the misty purple mountains, of harmoniously curved outlines, growing rosy in the dawn.

Little Cho Sen sang and danced and bounded into the air in that spirit of exaltation which the fragrant, rosy dawn unfailingly induced in him, as his bare brown feet contacted the unobstructed magnetic currents which proceed from our good Mother Earth to vitalize and nourish her offspring. Cho Sen worked through most of the hours of the long day but he worked in the fresh air, the sunlight made him strong and sturdy as it makes the plants, and the beauty of his surroundings filled him with joy. Wherever he turned, lo, there was beauty! Beauty of meadows and trees that sheltered the little feathered friends that destroyed the insect pests of his father's garden; beauty of

flowers and fields and the soft-eyed cattle that helped to feed the family and fertilized his father's grateful pastures; beauty of blue sky and fleecy clouds and the far horizons of the hills and the red temple roofs and the green-clad walls of the rich man's garden. Cho Sen sang at his work, his brown eyes sparkled, his cheeks were ruddy with health. And now as the sun rose above the far purple hills he sank to his knees and laid his little brown face against the tender, responsive earth in loving and respectful obeisance to that great and shining Power to which all creatures owe all of sustenance and clothing and shelter that they may possess; whence all proceed but to return.

In the humble house the mother of Cho Sen rose to cook the morning rice, always, as far back as our written history records, the staple food of Dragonia. Besides her work in the fields and the care of the cattle there were many household tasks to be accomplished—little garments to be sewn and mended and washed, beaten on the rocks beside the brook and hung on bamboo poles back of the house; food to be cooked from the garden that yielded so abundantly, thanks to their good cattle; butter and cheese to be made from the milk of the patient cows and eggs to be packed for sale in the village, her lively little brood to be instructed both by precept and example, the kitchen god to be remembered for the good luck it was sure to bring. Beside the door, in a wooden cage, Cho Sen's lively crickets awoke and commenced to sing their hymn to the day.

Cho Sen looked eastward—gazed again—shaded his eyes and looked once more, gasped with amazement.

"Oh! What a great bird!" he cried.

A WHITE horse with widespread wings a-glimmer like silver in the

sunlight, flew swiftly out of the rosy clouds of the early morning, hovered a moment above the fields of his father and settled down on the meadow where the two humpbacked cows grazed contentedly awaiting the capable hands of Cho Sen's mother to relieve their capacious udders. The little boy gazed with open mouth when a handsome and regal-looking man and the loveliest lady he had ever seen descended from the magic horse. Curiously enough he was not frightened although the cattle belled madly and snorted angrily and pawed the earth furiously as if in challenge to the strange white animal which had so boldly invaded their own particular domain.

All the people Cho Sen had ever seen in his short life had possessed black or brown eyes like his own, and this lady's eyes were as blue as the autumn skies after the rain has washed them clean of dust and smoke. A jewelled bandeau confined her shining yellow hair that fell in golden ringlets below her waist. Around her graceful neck was a necklace of green jewels and others that flashed like the dew when the sunlight made him forget that they were only drops of water. Bracelets of jade were on her arms and a girdle of large jade beads around her waist.

She advanced towards Cho Sen, smiling sweetly at the bewildered little fellow, offering him some rare confections she carried, new to him and delicious beyond anything he had ever imagined. By means of gestures she inquired if the house was his home and proceeded in that direction, the tall, kingly man beside her, little Cho Sen running ahead. The man carried a basket heaped with bananas, cocoanuts, delicious guavas and other tropical fruits of which these poor inland dwellers had hitherto possessed no knowledge. He was clad in garments of shining texture and from

his shoulders depended a cloak that appeared to have been woven from the bright plumage of countless humming-birds although this was but a clever trick of the weavers of textiles in the land of Neenitlan. The two strangers presented their gifts to the mother of Cho Sen and begged for a cupful of water. Stricken dumb by the sight of the magic horse and the munificence of the strangers' gifts, the mother of Cho Sen could only smile and bow and fetch a jug of water from the brook, while the blue-eyed lady petted the baby, little Cho Loy, and gave her an extra sweetmeat.

From every direction the people came running to witness the incredible marvel of the winged steed, some fearing to approach closely. The lady whom her companion called "Tooella" offered the children rides on the wondrous horse. Many of the children were afraid and some of their parents feared to allow their offspring to mount the strange animal lest it prove to be an enchanted creature such as were mentioned in the ancient legends with which the story tellers regaled them, stories of children kidnapped by sorcerers and carried away on the backs of such strange animals nevermore to return to the desolated homes and grief-stricken hearts of their parents. But little Cho Sen gazed into the blue eyes of the beautiful lady and placed his chubby and not very clean hand in hers at which she laughed softly with a pleased look and squeezed his brown hand gently. Cho Sen raised his eloquent brown eyes pleadingly to those of his mother. She nodded consent. The tall man whom the lady called Yumatzin lifted him to a seat inside the body of the horse and then the two entered and seated themselves beside him.

Yumatzin turned a knob in the left side of the horse and it turned to the

left; turned a knob in the right side and the horse obeyed and turned to the right. He pressed a knob with his foot and the great white horse rose noiselessly and gracefully into the air. Cho Sen gave a little gasp but he was really not afraid, with that beautiful lady at his side. Various buttons and knobs regulated the speed of the horse. They made a wide circle above the farm, then of the village and at last descended and set the little boy down at his mother's feet unharmed, feeling extremely important and dumb momentarily with inexpressible ecstasy.

AFTER that most of the children and many of the elders ventured but not without much fear and secret misgivings. However, all returned safely to earth. A courier was despatched to the ruler of that province to apprise him of the approach of the travellers on a friendly mission, bearing costly gifts of fruits and flowers and rare and precious fabrics and metals and jewels from a land beyond the Sunrise Sea.

Although contrary to age-long precedent, the emperor at last consented to receive them, emperors possessing as much curiosity as common people although more cleverly concealed. The two strangers left their horse, protected in view of certain contingencies by that strange magnetic force proceeding from cleverly concealed instruments which would temporarily paralyze the inordinately curious or destructive. They presented their rich gifts to the delighted ruler and were laden with the most costly presents in return.

It was easy to convey to the dullest, that these were honeymooners on a pleasure trip around the world. "All the world loves a lover," a proverb which has come down to us of Dragonia from the remotest eras. It is equally true that real lovers love all the world.

So the hearts of these two lovers were touched to pity by the sight of the poor, backward people of Dragonia, so ignorant of mechanical contrivances to lighten their arduous and wearisome toil, so destitute of opportunities for recreation and enlightenment.

"Most of all, I pity the women, who, in addition to their soul-destroying labor must hear and rear their children without even the simplest appliances which the humblest woman in Neenitlan considers absolutely essential to the prosecution of her mission," sighed the Lady Toella, her blue eyes filled with tears.

They were able to convince the Emperor who was an extraordinarily intelligent man, popularly supposed to be of heavenly origin himself, that the magic horse was merely a machine, whose fashioning was due to the mechanical ingenuity of the people of Neenitlan who were so far advanced in the science of mechanics as to cause more backward peoples to regard them as sorcerers. They explained the mechanism of their airship and invited the most able mechanics and artisans and the scientific men and sinalogues, myself amongst them, to inspect it closely. And so commenced my acquaintance with those two noble souls with whose fate my own was to be so closely concerned. Most of those so assembled, like myself, had the pleasure of journeying in the upper regions conveyed by that incredibly fleet courser, far above the plains and forests and lofty mountain horders of my beloved country at such a height that people seemed no more than flyspecks and the buildings like tiny blocks of wood such as children amuse themselves with or the small white cubes which possess such a fascination for gamblers.

Strangely enough the Lady Toella was more adept in the management of

the airship than her lover. He informed us that she was more proficient in the science of mechanics than almost any man in their homeland, a matter for wonder to any Dragonian. While our men appeared to possess small mechanical ingenuity our women seemed to be totally lacking in it.

THE Lady Toella beld her "magic tube" as the ignorant called it, to the eyes of the Emperor and instructed him in its proper manipulation. To his great delight he was enabled to behold with his own eyes, as I myself have done on many occasions, the fair land of Neenitlan with its clean and shining cities built of coralline rock, its sunny skies, its far-reaching forests and fertile, cultivated plains, its innumerable and delightful varieties of luscious fruit, its wealth of flowers and its multitude of gaily-colored birds. When he "rubbed the side of the magic tube" in the parlance of the unenlightened multitude, he could hear the voices of the priests chanting their melodious and inspiring hymns to the sun in their unfamiliar tongue, the people laughing and chatting at their work, the lowing of the cattle and other animals of herden and food supply, the happy voices and laughter of children at play.

By command of the Emperor, several of the bolder and more curious scientists and scholars accompanied the bridal couple when they returned to their own land, which could easily be accomplished in the course of a couple of days. We were welcomed with amazing cordiality by the most learned and powerful of the inhabitants of that happy land to whom we bore gifts of unequalled rarity and richness with greetings from the Emperor. The people of Neenitlan were not ruled by an Emperor. Instead, they were governed by what I might call a sort of oligarchy

of the intellect. Chief of them all was the father of the Lady Tooella, Teemax the Wise, chief instructor of his people in the science of mechanics with all its various ramifications; while Gautamatzin, father of the kingly Yumatzin, had charge of the food production and defense of the country. We were shown all their wondrous inventions that could be lawfully shown to strangers from a foreign country and their construction and manipulation were explained to us. Our lack of a common medium of communication was a handicap, but by means of a peculiar method of impressing sounds and their significance upon the subconscious mind of man, the Lady Tooella was soon enabled to converse intelligibly with us, she being the most sensitive and proficient in the art. One most peculiar feature of their civilization was their method of precipitating their thoughts directly on paper without the necessity for using brush or quill pens or mechanical contrivances of any kind although these were commonly used where the utmost speed was not necessary. The writer had only to strap a certain little instrument to the forehead and bend above the paper fastened to a sheet covered with a thin coat of some metallic substance, concentrate on the message and behold! the words were precipitated directly to the paper. To a sinologue, that, perhaps was the most striking and alluring feature of their civilization!

We returned to Dragonia and made our report to His Majesty the Emperor. He was filled with wonder and the spirit of emulation. Never before had any sovereign of Dragonia conceded that the civilization of another country could surpass its own. Fain would he himself have journeyed on that fleet aerial courier to view the marvels of the fair land of Neenitlan but the laws and customs of Dragonia forbade. In-

deed, he was risking much in running counter to the customs of the country by admitting these strangers and also in pursuing the course upon which he at once embarked.

CHAPTER III

Labor-Saving Machinery Is Introduced

AT THE personal request of the Emperor, and with the full and free consent of the generous rulers of Neenitlan, the Lady Tooella and Yumatzin transported a number of artisans and mechanics from Neenitlan to Dragonia. Also, the rulers of Neenitlan sent a number of their more striking inventions as presents to the Emperor. Amongst them was a curious gift known to my people as "the singing tree" as it was made from some strange metal that gave forth a most sonorous and musical sound at the lightest touch, in the shape of a tree. The whole thing was a strikingly accurate and lifelike representation of a tree. The trunk and branches and the stems of the leaves were hollow and the trunk concealed a most clever contrivance for attunement with waves of a certain medium of the atmosphere by which sounds such as music and human speech at a vast distance might be reproduced with all the accuracy and delicate detail of the original inflections.

At the command of the Emperor the artisans of Neenitlan proceeded to instruct the most noted artisans and mechanics of my country who seemed but children beside their highly advanced instructors. It cannot be rightfully claimed that originality of ideas is one of the most strongly marked characteristics of the people of Dragonia. They cannot lay claim to inherent inventive genius such as distinguished the inhabitants of Neenitlan, but we are an imitative race and in an astonishingly

short space of time our artisans were able to duplicate and manipulate most of the marvellous mechanical contrivances that had been introduced into our country. The production of labor-saving machinery proceeded by leaps and bounds. It was a unique and interesting example of that greatly debated subject of mutation which scientific men of Dragonia in the privacy and confidence of mutual pursuits and interests have ever discussed in a manner that would have provoked persecution by the ignorant and vulgar if the multitude had become aware of it.

Strange mechanical birds and beasts of various dimensions swiftly traversed our skies, eagles, storks, owls and those mythical birds called the *rokk*. My people have ever had a flair for the grotesque in art. Besides machines in the shape of horses, there were camels and elephants and tigers and lions, to say nothing of immense fish and that gigantic and carnivorous reptile for which my country was named in the misty past and whose extinction alone rendered it safely habitable in ages so remote that only the vaguest legends connected with it still survive. (It has been rumored amongst the scientists of Dragonia that occasional specimens of this hideous creature still survive amongst the interior jungles and morasses of a land far to the southwest.) These carriages traversed the highways swiftly by night and day so that one might pass from the farthest confines of Dragonia, from north to south, from east to west, in as many days as the number of weeks and even months it had formerly required. The airships were chiefly for the transportation of wealthy men engaged in the pursuit of pleasure, for messengers in desperate haste in cases of personal or national urgency, and for officials of the government. To the poor the cost of such

transport was prohibitive.

Enormous submarine vessels in the shape of whales and other monstrous denizens of the great sea that guarded the eastern and southern borders of Dragonia swiftly traversed its far-spreading waters.

THE larger and more cumbersome vehicles bearing the poorer passengers, agricultural products and ores and goods of various kinds, perforce travelled more slowly than the lighter carriages. The ignorant and illiterate of the more remote provinces were terrified by them at first and referred to them as "dragons going about breathing fire and smoke and devouring black rocks and other strange aliment." For these huge ground carriers good highways were a necessity, for economical and expeditious transportation. Therefore, great numbers of workers, both men and women also, were soon engaged on the highways and in mining and manufacturing. In all the length and breadth of the easily accessible portions of Dragonia there was no unemployment. But such great numbers of farmers and agricultural workers left the farms to engage in the manufacture of machinery and its products for the more attractive wages, that the production of foodstuffs became a serious problem for the statesmen. Food prices soared to such heights that the new and higher wages purchased no more than the old, comparatively speaking.

Some secrets the Lady Tooella and her consort, the kingly Yumatzin, and the imported artisans had been forbidden to reveal. They feared to entrust our people with certain knowledge lest in their backward state of ethical development it might be used to the disadvantage of their neighbors and even Neenitlan herself. Although they revealed the secret of the Disintegrating

Ray which, while it could be used to compass the death of human beings could also be employed constructively in mining and road building and in the destruction of obnoxious vegetation that caused the agriculturists vast losses annually, in destroying animal pests, as employed in a modified form, and in excavating great subterranean storehouses and temples in the solid rock, *no hint was given of the secret of the repulsion of the force of the disintegrating ray*, which possessed the property of instantly disintegrating any object on which its rays were focussed and reducing them to fine ash or gas. Metal or wood, or vegetation or flesh, or the densest stone, all could be transformed in a few seconds of time, to a light impalpable powder or a vapor invisible to the naked eye. In the country of Neenitlan this deadly ray was used for purposes of cremation of the dead, it being considered more economical and less harrowing to the feelings of the more sensitive than the crackling flames and nauseous odors, the soot and vapors arising from a crematory, however skilfully disguised.

Agas before, when tribe had been at war with tribe, the people had been compelled to protect themselves and provide means of refuge from their enemies, by erecting strong walls around their villages and cities. At certain times these walls had been useful even as means of defense against wild and ferocious beasts. The shorter the length of the encircling walls the fewer defenders needed, the greater the protection afforded, comparatively speaking. Hence the poorer classes of people, in time of war, were crowded closely together. Now that such danger was for the most part past, although the origin of the custom had been forgotten, the habit persisted and the poor were crowded abominably into vile lit-

tle dens, squalid and filthy from necessity, without adequate ventilation and against all laws of sanitation and decency. As more and more workers crowded into the already overflowing tenements, rent prices rose higher and ever higher. Disease increased alarmingly. The higher wages did not compensate for the greater increase in the cost of living.

THE more highly paid workers, temporarily unbalanced by the unprecedented wages they received, proceeded to spend them lavishly in folly and dissipation of various kinds, so that their financial condition was not perceptibly improved. They purchased expensive horseless carriages and driving them at reckless speed, endangered not only their own lives and those of the drivers of other carriages, but the lives of pedestrians. Fatalities became common and of no especial concern to the multitude. Each year as many people died under the wheels of the machines as the number of inhabitants of good-sized cities. Because of the rapidity of flight possible, banditry became common and the criminals were rarely apprehended. Most of the population grew too indolent to walk. Pedestrianism became almost a lost art. Where hitherto the people had walked or been carried in chairs now they sprang into carriages, pressed a knob and were propelled recklessly to and fro, without regard for their own lives or those of others.

The theatre, as it had been known, no longer existed. Instead, actors in secluded situations, without an audience, enacted dramas and comedies which were reproduced mechanically in all their original colors and motions and with the accompanying dialogue and music. Many people acquired such a taste for this species of amusement that

they spent practically all their leisure time at the places of entertainment where these plays were reproduced. Did they not desire to make the effort of proceeding to such places of amusement they had only to "rub the side of a magic tube" in the language of the vulgar and illiterate, a tube small enough to be carried in the hand, and the rarest and most intriguing music would be heard, even from as great a distance as the land of the Lady Tooella. By touching another spring on the side of the same tube, and focusing the objective on a white or light-colored wall, lo! the images of distant scenes and friends would be projected with all the vividness and colors of the original.

Great numbers of women worked in immense harnlike structures, poorly lighted and unsanitary, where manufacturing was carried on under health-destroying conditions. The Emperor and nobles and rich men had been eager to learn the mechanical secrets of the strangers from Neenitlan. Now the owners of the great factories cared nothing for the health and comfort of the workers without whom they should have been unable to operate their marvelous labor-saving machinery. They cared only for their profits which enabled them to further increase their wealth and power. They had no concern for the bodies and souls of the workers. They were more solicitous of the safety and preservation of their machines since their replacement was expensive and workers who died or were injured could be replaced at no expense.

FOOD for great multitudes was prepared in immense kitchens whence it was distributed to the patrons. It passed through many hands before reaching the consumer and as there was always more or less "squeeze" con-

nected with each transfer the ultimate cost to the consumer was far beyond what it had been when food was produced in the homes. However, it was in some respects of better quality than would have been possible had it been prepared in the squalid dens of the majority of the workers and the better homes of women who had become too indolent to prepare it. Breadmaking became a lost art, as well as the preparation of various other comestibles.

WITH the mothers absent the homes were comfortless places. The children played in the streets, the vicious corrupted them. Women who did not work, the wives of the wealthy and those of the most highly paid workers who were necessary for the production and operation of the machines became lazy, fat, hiliou and ill-tempered and occupied themselves daily, hour after hour in frivolous occupations and in playing silly and childish games with little bits of colored pasteboard and that ancient and honorable one called the "Game of the Winds" which had another name in the beginning and was originated for a purpose other than that of amusement. The winds for which it was named were not more irresponsible and unstable than these players themselves. At last they commenced to gamble in earnest, often for high stakes. Hour after hour they sat in their gardens in summer, and beside their fires in winter, and gambled until they drove their husbands to bankruptcy or suicide.

Some of the younger women devised a fashion of painting their faces with powders that grotesquely distorted their features. Some pale faces were tinted a shade which simulated the healthy coloring produced by an outdoor life and long exposure to the rays of the sun; others were tinted an orange shade,

which, if it come through disease indicates a serious disturbance of the vital functions; others were painted a purple and some of these idle and brainless females whose lives could not justify their existence, enameled their fingernails black and red and orange to match the prevailing tones of their scant costumes and their vapid countenances revealing less intelligence than the faces of those uncultured savages beyond the Sunrise Sea who exist practically in a state of nudity and paint their bodies in every conceivable color, with pigments made from grinding the lichens of the rocks.

They spent much of their time in dancing and posturing shamelessly in a semi-nude or nude condition, if clothed at all wearing garments of transparent fabrics which emphasized rather than concealed the most characteristic features of their femininity and doing all in their power either ignorantly because of the pernicious examples of others or consciously, to arouse the sexual passions of their male companions, often with the most disastrous consequences to themselves. At times the Lady Tooella was moved to disgust at the sight of intelligent human beings using their limited span of life for the prosecution of such frivolous pastimes. In her own land the pursuit of learning and the pleasures of the intellect formed the chief recreations and employment of the women as well as the men.

"Perhaps Yuma and I were at fault!" she would sometimes say. "Perhaps it was unwise so to force the development of this people. No matter how good the intentions of the maker, to force the rising of the dough is disastrous to the bread!"

No doubt many of those who thus wantonly exposed their persons to the amorous and lustful gaze of great numbers of men had a sincere if mistaken

belief in the fallacy, artfully cultivated by manufacturers of cosmetics and seductive perfumes and incense, by means of advertisements and otherwise, that men would only be won and their love retained by the exercise of the wiles of the courtesan on the part of virtuous women.

The poorly paid women workers aped the fashions of the wealthy and well-to-do. Having an income of their own and being independent of their husbands and fathers, the men of their families could no longer exercise reasonable control over them. They proceeded to do as they pleased with absolute disregard of consequences as regarded themselves and others. After working hours were ended the aims of the younger workers of both sexes appeared to be the achievement of what was termed "thrills." Free unions without the consent of parents or the presence of priests or magistrates became common. So many illegitimate children were born of these unions that the menace of inbreeding whose avoidance is the chief aim of the registration of marital relations, alarmed the elder statesmen. Night was turned into day and the killing pace soon left its marks on the younger generation, especially of the working class who could ill afford this burning of the candle at both ends. Some fed their overwrought nerves with sedatives and narcotics; others stimulated them still more with strong drink and the young girls and women in this defenseless condition became the prey of vile male escorts.

WHEN the Lady Tooella and her husband perceived how these people had perverted the knowledge which she and her husband and the devoted scientists and artisans of Neenitlan had been at such pains to provide at the sacrifice of their own time and recreation

and chosen pursuits and over an extended term of years, because of their deep sympathy and compassion, they were often grieved and their hearts were contracted within their hosoms. Almost Tooella regretted the course they had pursued but she hoped that the hourglass might be turned down again and the inevitable reaction set in.

"Nature will not be thwarted, Tooella!" warned Yumatzin. "She does not proceed by mutation. Dragonia is riding to a fall. How and when it is impossible to foresee, but the crash is bound to occur."

Many years had passed since the day they had left the beauteous Vale of Tee-waukan on their honeymoon. Much of that time had been spent with the people of Dragonia. The parents of the Lady Tooella supervised the education of their three children during their absence. Yumatzin showed some traces of the journey of Life but it had left no appreciable marks on the lovely, serene face of his mate. She was as fair as on that day nearly three decades since when she and Yumatzin had alighted from their magic horse on the green meadow before the house of the father of the little Cho Sen. She was still as slender and graceful as the shoot of a young willow; the same soft look of love and compassion set her marvellous blue eyes apart from the eyes of all other humanity; her glowing hair still rippled like molten gold below her waist.

The lovely Princess Su Shinfah, only and beloved daughter of His Majesty the Emperor, and the Lady Tooella had become warm friends. The Princess had lent her best endeavors, her most devoted efforts to her friends from beyond the Sunrise Sea in all their attempts to ameliorate the condition of the workers. In this she was aided by the Lady Lee Ann, only child of the leading noble of the wealthiest and largest province of

the Land of Dragonia, and her young cousin, the beauteous Dah Leen. Lee Sen, also a cousin of the Lady Lee Ann, Wang Yu, a professor of political science at our most famous University at Lelling, and I, Low Motse, completed the sextette of the chief promoters in conjunction with the Lady Tooella and Yumatzin of this mutation of a mechanically backward nation which was to have deplorable consequences that no human wisdom could have foreseen. I myself was but a sinologue, a student of our ancient history. Yet always from infancy I had been fascinated by any sort of mechanical contrivance, and consumed by a desire to travel in every part of my native land, which had been partially gratified. Only to one or two of my closest friends had I ever confided my equally strong desire to see the countries and homes of the outlanders and learn of their customs and histories.

This had been most wondrously granted me through my contact with the Lady Tooella and her husband. With them I had been enabled at least to view the various countries of the earth from the air. In several of them we had descended for periods of time lengthy enough for me to become to some slight extent acquainted with their inhabitants, their manner of life and their histories. Many of them were in a still more backward stage of development than our own had been when the Lady Tooella and her mate had taken compassion on us and sought to bestow on us the benefits that their own people had gained slowly and painfully over a great period of time. Engrossed in such fully satisfying pursuits the thought of wedded life had been distasteful to me, as from observation I had learned how confining and stultifying the obligations of a husband and father can become, how they can hinder and hamper and

prevent fulfilment of the strongest desires of his heart. But when I gazed into the dark, lambent eyes of the Princess Lee Ann I capitulated. All worldly ambition, all the satisfaction of my intellectual appetites, seemed pitiful and puerile compared to the accomplishment of my destiny as a man when our glances met as she stood beside the Lady Tooella after descending from a flight beyond the Sunrise Sea. Old and dry and withered as I was, a man of brush and quill and reed and paper, I felt I was no mate for this radiant young life; and yet I knew that only as the father of her sons should I have fulfilled my mission in life. Strangely enough, she was as greatly attracted to me, who was some twenty years and more her senior. Always, with that independence of the younger women of Dragonia, she had refused to accept a mate of her father's choice.

"I was waiting for you!" she told me on many occasions that are bittersweet for me to remember, whose recollection wrings my heart with bitter agony.

The Lady Tooella and the sweet Princess Su Shinfah whose lady-in-waiting Lee Ann was, lent their efforts to our cause and in the end we were betrothed.

CHAPTER IV

The Family of Cho Sen Forsakes the Farm

ATTRACTED by the astonishingly high wages, the parents of the little Cho Sen had sold the farm and moved to the city of Leiling. Excited by the newness of their surroundings and the sensation of having so much cash in their pockets and the prospect of earning such unheard-of amounts of money, they spent freely and without the judgment they would have exercised in their former circumstances. A fat, smooth-

tongued promoter of a mining scheme managed to induce the father to invest the major portion of the proceeds of his farm in the mine which proved to be utterly without merit. The oily one was so well acquainted with the law and had protected himself so cleverly that it was impossible for the father of Cho Sen to secure redress of this great wrong or to obtain restitution.

"Never mind, my dear ones," he said philosophically, "with the fabulous amounts I am earning we shall soon be on the sunny side of Life."

In order to be near their work they were forced to rent a few small rooms in the poorer and crowded section of the city. They were poorly ventilated and shut away from the sunlight to which the family had always been accustomed. Many of their neighbors were also from the farms. Often little Cho Sen recalled with regret the joyous mornings when he had leaped and gambolled like the young kids over the dewy grass and watched the eastern sky grow rosy like the petals of the pink poppy. So many farmers and agricultural workers had deserted their fields and gardens and orchards for the more attractive compensation of the city workers that the supply of provisions fell far below the demand with consequent rise in prices. Therefore, the new and higher wages would not buy so much of the necessities as the old and poorer ones had done. As the children grew older their wants far surpassed the amounts that their increased earnings would purchase of food and clothing and shelter. Cho Sen's mother also went to work in a great factory where cotton cloth was woven. Home became a desolate place with no motherly smiles all day and sympathy for the countless ills and minor accidents to which all children are subject. It seemed cheerless enough to Cho Sen, who could re-

call the old days on their charming little farm more clearly than the others.

At last the children spent most of the time on the street rather than in the squalid den that they called home, their eyes and ears open to the suggestions and corruptions of evil companions. No longer did they have the good, well-cooked meals that their mother had never been too weary to prepare when they lived in the country, with prayers to the kitchen god for her little family's welfare that the food might nourish and bless her dear offspring and her good man. The kitchen god was forgotten, forgotten the oldtime portion of food set before him from the family meal, here where food was so difficult to procure.

"Mother, tell me, why do people have to toil all their lives just to live until they die?" asked little Cho Sen one day.

"Perhaps because it is the will of The Great Ones," she answered somewhat bewildered. "You will understand more when you are older."

"You and my father love all of your children alike," went on the little boy. "Each one has as much rice and fish in his bowl as the others. You and my father work all day and sometimes far into the night at that great ugly house where cloth is made. Sometimes you stint your own food that we children may have more. Yen Shee's father does no work and they have bird's nest soup and honey cakes and roast pork every day if they like. My father is a better man than Yen Shee's father. I have told him so and we fought. Do The Great Ones love Yen Shee's father better than mine?"

"You make my head ache with your questions, child. Wait and question your father. Women do not know as much as men about these matters." So spoke his mother; but she remembered his question and repeated it to his

father and to some of her fellow workers and often they recalled it with laughter — but some remembered it sadly in later years.

ON ONE never-to-be forgotten day she returned weary and worn from the factory where the cotton cloth was made. She came upon a procession of soldiers with long, keen cruel swords escorting criminals to the place of execution: and amongst them she saw the face of her son, Cho Kong, her Number Two Boy, the one but a year or two younger than Cho Sen, who had gotten in with a crowd of rowdies and was often absent from home for two or three days at a time, no one knew where. Cho Sen now worked at the house of the cotton cloth, tying threads all day and earning his keep. But Cho Kong was indolent and irresponsible and refused to work. She broke through the line of guards, regardless of the keen swords and threw her arms around the neck of her son, screaming and cursing the guards.

"What has my son done, my little Cho Kong?" she asked.

"He stole fruit from the garden of the great Kang On."

She clung to her child until the soldiers struck her and tore her arms loose from his neck and she fell unconscious to the ground while the procession marched on to the place of execution. Cho Sen who had run to meet her knelt by her side, believing her dead, the tears coursing down his brown cheeks. He had loved his brother and he was sure Cho Kong would never have become a thief had they remained in their dear old home. Again and again the poor woman strove to rise, fainting and falling many times. At last they reached home and Cho Sen helped her to her bed and comforted her until his father came. They mingled their tears

for the lost one. They grieved for their lost home, the green meadow and the singing brook and the rice paddy and the garden and the flowers and the clucking hens with their many offspring and the two beautiful soft-eyed cows that furnished them abundantly with their good, nutritious milk, not like the unclean and strong-tasting stuff they bought from the vendor of milk in the city.

"It is the fault of the machines! Curses on the machines!" groaned Cho Sen's father. "The gods have not given us the protection that has been promised! Curse the gods, too!" and he snatched the poor kitchen god from its place and crushed it beneath his sandals and threw it into the fire while his wife and the children looked on terror-stricken.

The factory where Cho Sen worked was damp and cold. It was necessary to have it so that the cloth might be of the required quality. After awhile he commenced to cough. His dark eyes shone feverishly and his cheeks grew hollow no matter how high his mother heaped the rice in his bowl and pressed her own share of the milk on him. In spite of his cough and his feverish eyes, his dark, lean beauty attracted the girls of the house where the cotton cloth was made. He was hardly grown to manhood when he wedded the little, laughing Chan Loo. She, too, worked at the house where the cotton cloth was made. Twice he saw his little sons laid away in the soil that had received his ancestors. And then the bright-eyed girl of the dimpled cheeks and roguish smile followed them. Well did Cho Sen know what had caused her to droop and fade like a small, bright, delicate flower.

"Curse the machines!" he repeated, over and over again, as his father had done on the day of Cho Kong's death, as thousands had commenced to do.

At last a sufficient number of machines had been manufactured to meet the requirements of those who owned them. There was little work to be had save in keeping them in repair for they were practically indestructible. The highways were completed and but a few workers were needed to keep them in condition. The men who had constructed the labor-saving machines were now idle and milling like leaderless sheep who know not where to find the food to which they have been accustomed and whose procuring means life or death to them. As goods could be produced so rapidly there was soon a great surplus. Then the factories closed down while the common workers starved until the wealthy and those who had received the highest wages could consume it. Again the mills opened and ran furiously for awhile and again they closed. It was like some merry-go-round such as rejoices the hearts of children. The owners of the machines grew richer and the masses became more poverty-stricken, more hopeless and despairing day by day, seeing no hope of ever rising above their condition.

MILLIONS were without employment, millions of starving people who commenced to growl and mutter and curse the labor-saving machinery that could do the work of many people and *produce goods faster than the people could consume them*. Former agricultural workers recalled the old days of comparative plenty on their little farms in the green, hazy country that now appeared like some heavenly region from which they had been ejected. Wealthy people spent their riches like dirt while the people who had produced it for them starved unheeded and their little children succumbed miserably to famine and disease. Under

these circumstances it was not surprising that crimes such as murder and robbery increased to such an extent that the life of no person was safe if he was known to be the possessor of any large amount of jewels or of the medium of exchange. The wealthy bired bodyguards who themselves often turned bandit and robbed their employers. And the foolish, empty-headed wives of the rich continued to play their silly games and pursued their amorous intrigues; the philosophers argued as to the possibility of the survival of human personality after death and as to what, if any, the conditions of the hereafter would be like; and the poets and writers played with their words and arranged and re-arranged them endlessly each striving for a different arrangement from that of any of his fellows, like children playing with pretty pebbles on a beach while a tidal wave approaches, or men casting the little white cubes unmindful of the fire that rages above their heads.

The fashions changed suddenly. The women took to wearing wide, voluminous skirts and great hats so burdened with feathers and artificial flowers that they could hardly be kept on the head except by the use of long, dangerous pins that occasionally put out the eyes of their neighbors in crowded quarters but were at times of some use as weapons of defense—even, it was slyly whispered, of offense. Their hair was now worn in great coils and braids. Those whose locks were scanty purchased artificial hair shorn from the heads of those more abundantly supplied by Nature and whose necessities constrained them to part from it. Thousands of women were engaged in making hair goods and nets and hats and flowers and the extra goods for dresses that the fashions demanded. Many factories reopened. The men who raised sheep

were happy again and the cotton-growers hlessly the fashions that caused such a demand for their products. The hairpin factories and hair ornament makers worked overtime. These people now had money to spend and they bought sufficient food so that those engaged in the manufacture and producing of food supplies were enabled to dispose of their product.

But all at once came a quick change in the fashion again. The fickle women changed their long, full skirts to styles that were immodestly narrow and short exposing the most intimate portions of the female anatomy to the gaze of the lustful and prurient, for no reason except the childish whims of the originators of the styles. The hats were changed to small, tight-fitting affairs, severely plain and without ornament or hatpin. Some notorious harlot had a fever and cut off her hair. Most of the rest of female kind proceeded to cut their own hair, mutilating their greatest beauty, reminding the thoughtful of bands of shorn ewes who are not less beautiful than the short-haired women. And more than this, they threw millions of women out of work who had otherwise subsisted and reared their families with the wages they received for making hair goods, hairpins and nets, artificial flowers and other ornaments for hats. The ostrich growers went bankrupt for there was now only the smallest market for their product. To make matters worse, a feminine fad spread that only silk should be worn. So this blow added to that of the small, short skirts, caused the cotton and woolen mills to close. Millions of employees were thus deprived of means of a livelihood. The raisers of sheep fared better than the cotton-growers as there was always some demand for the flesh of their sheep, but as it was, numbers of them were ruined. Great masses of

people were sunk in misery and degradation because of their lack of employment. When the workers became dissatisfied with the amount of their remuneration there were always several others waiting and eager to take their places, others who were actually starving and compelled to see those they loved in the same frightful condition. These were glad to work for a mere pittance to stop the pangs of hunger. So those who had work clung to their positions with a death grip for they could see very plainly what happened to those who had no work at all even at the very lowest wages.

"It is the fault of the machines!" cried the starving masses. "Let us destroy the machines!" and so the murmur grew into a great volume of sound that increased and rolled and rumbled throughout the land. Some of the owners of the great machines grew apprehensive at the sound of that rumble like the growling of a great beast, they set men to guard their factories and their homes. They were well supplied with the engines of destruction made by the workers themselves, amongst them the Disintegrator Ray which was capable of such deadly destruction.

CHAPTER V

The Destruction of the Machines

CHO SEN and his friend Chang Kai were the leaders of those who advocated the destruction of the machines. Chang Kai also had been born and bred on a little farm near that of the father of Cho Sen. His parents had died long since, chiefly from semi-starvation and the fair young girl he loved and intended to make his wife had become entangled in some unprotected machinery and so frightfully mangled that she had died in consequence.

Pale, emaciated, a red spot on each cheek, his slight frame racked by spasms of coughing at times, Cho Sen raged like a lion up and down the land. Gladly would the owners of the machines have put an end to his existence but they dared not provoke the sullen, angry people so far. The country was like a powder magazine that needs only one spark to cause an explosion. Cho Loy, his pretty and fairy-like little sister had been sold into slavery to prevent her death from starvation. His loved brother, Cho Kong, whom he remembered always lovingly as a bright and merry-hearted, mischievous little lad barefooted in the dewy grass of the tiny farm of his father, filled a dishonorable grave. Cho Sing, the youngest brother, had joined an outlaw band that preyed only on the rich and was a fugitive from what was called justice. Their spoils being always divided amongst the poor, they were hidden by those they befriended at the risk of their own lives and snapped their fingers at the law and its officials. Often Cho Sen received welcome gifts from this source that enabled him to continue his work of inciting the masses to the destruction of the machines which he fully believed had brought ruin to the land. He held no malice against the Lady Tooella and her husband recognizing right motives on their part and recalling the day when the lady's wondrous sapphire eyes had rested on him with such a world of love and compassion in their limpid depths and he had taken his first ride on the magic horse. Cho Sen had worked on many machines in his day. He had learned the secret of the manufacture of the terrible Disintegrators before he had been suspected of revolutionary inclinations. Armed with them, the masses were invincible. The owners of the machinery also held the secret and many others also, but they

were few compared to the numbers of their workers.

"The machines have made a hell of our fair land! They are the inventions of the Spirit of Darkness and Evil! Because of them we starve, we who are but the Slaves of the Machine! Behold! Our women and children are corrupted. They breathe foul air; deprived of the sunlight which is the gift of the Father-Mother to all creatures, our children are pale and delicate like the spindling plants that grow in noisome and unwholesome cellars and die before they reach maturity. *Let us destroy the machines!*"

"*Let us destroy the machines!*" the people echoed in all the land of Dragonia.

"Nay! Keep the machines! *But let the people own them!* The people made them. Without the workers they would be idle, the owners would reap no profit from their ownership! Let the people own the machines!" pleaded the noble Lady Tooella. Her words were echoed by Su Shinfah, the kind, the good, the virtuous, the fair Lily of Dragonia and by the sweet and lovely Lee Ann, her friend and confidante.

"Let the people own the machines! Let all the workers take an equal share of the products of the machines!" they cried. Gladly would both have sacrificed their wealth and exalted station in life that the masses might be rescued from poverty and starvation and ignorance. But their words fell on deaf ears, the ears of the masses and the ears of the owners of the machines alike. In vain these beauteous, high-born, self-sacrificing advocates of their people's welfare pleaded, wept and wrung their hands. Masters and slaves alike listened in sullen obstinacy or turned their faces away. Moved by the plight of his people and the eloquent reasoning of his lovely, compassionate

child, the Emperor, no doubt, being an exceedingly humane being, would have given his consent to transfer of the ownership of the machines, but it is probable that had he done so, his nobles and the wealthy machine owners would have conspired to effect his death or removal from the throne. He could but await in patience the will of the gods.

A SLIGHT illness had compelled my withdrawal temporarily to my modest lodge with my man Fong whose ancestors had served my own for generations. He awakened me abruptly at evening as I dozed.

"Honorable Master!" he cried agitatedly. "Come quickly! Behold what the gods have decreed!"

There was a red glare in the sky above Kwen Loon and another above Leiling. The jaundiced waters of the Yellow River were red as blood in that terrifying light. Before another dawn those waters would run red from yet another cause. The far-off muffled roar of explosives indicated that the wreckers of the machines were at their awful work. Fong and I rushed to the shed where my airship was kept, my little gray eagle, the aerial runabout, large enough for only two. Often in it had the sweet Lee Ann and I voyaged by ourselves to the distant ranges of the west to spend our well-earned rest amidst the groves of sighing pines, beside the pure waters of some musically gurgling stream—Lee Ann of the purple-black hair, the slender graceful little figure, the tender, dreamy eyes and the dimpled cheeks who had glimpsed an ardent young lover beneath the dry exterior of an aged sinologue. I dip my brush in my tears as I write her beloved name!

We got out the little Graybird and rose in the air above the smoking and

flaming ruins of that night of horrors unprecedented—the Night of the Destruction of the Machines. We alighted in a field on the outskirts of Leiling. Fong would have accompanied me but I bade him wait beside the airship and keep it in readiness for instant flight. Should I fail to return he was to make his way alone back to our lodge and fend for himself. He was as expert in the control of the little machine as I myself. Sufficient cash for his necessities for a long period of time reposed in a hiding place at my lodge with which he was acquainted and this was to be his.

As rapidly as was possible and yet with caution, I made my way to the center of the city where the mob appeared to be and the greatest destruction was taking place, at the great industrial plants. I had removed the uniform of a sinologue and all other marks of identification as a member of the superior classes and attired myself in some garments of my servant in order that I might perhaps the more easily render assistance to those who would most certainly be in need of aid. Everywhere my eyes were turned they rested on red ruin and destruction. Heaps of corpses littered the way and obstructed my passage. The gutters run red with blood slowly congealing and causing the surest-footed to slip. All about were little heaps of ashes, that had been living, breathing human beings short time before—before the deadly Disintegrator Tubes were focussed upon them. Great crowds of people whose wrongs and fury reduced them below the semblance of humanity, surged and roared and shouted furiously, lustful for the blood of their oppressors and all who opposed their intentions, like raging wild beasts of prey. Mingled with the roar of explosives and the crash of falling walls and the hoarse

cries of the multitude were screams of fear and agony from the owners of the machines and the inventors and mechanics who perished almost to a man. It was perhaps the most terrible sight that the eyes of humanity have ever beheld.

AT BAY in a vacant square and separated from me by a mob, I finally beheld the Lady Tooella and Yumatzan standing beside a great white airship in the shape of a horse. Heaps of ashes ringed them round. The crowd might roar and rage and surge forward avid for their lives, training their deadly tubes on the two and their great white horse but they were ineffective. Many of the workers knew the secret of the tubes and great numbers of them had been manufactured and hidden in preparation for this night. Altho they could reduce the densest metal and stone and wood and flesh to a heap of the finest, impalpable powder or gas, they were neutralized and ineffective before the greater force projected by a machine artfully concealed in the body of the white horse, whose secret had never been imparted to anyone in Dragonia.

This mysterious force rendered the tubes of the attackers powerless and a strange magnetic instrument rendered all those within a certain radius numb and inert as if paralyzed for the time being. Otherwise, the Disintegrator Tubes would have easily reduced to ashes the bodies of the Lady Tooella and Yumatzin and their magnificent courser. As fast as the mob advanced to the attack they were reduced to ashes, with the deadly tubes they bore, or paralyzed to fall in helpless heaps. The others retreated, bewildered, confused and terrified at the inefficiency of their disintegrators and the mysterious nature of this unknown weapon.

Unknown to all but a handful of that

vast multitude, the Lady Tooella and her mate, I, myself, and the lovely Su Shinfah and Lee Ann, sweetest and dearest of women, bore on our persons a curious small instrument which had also the property of repelling the deadly rays. Also, we wore a tiny contrivance unknown to my countrymen and impossible of duplication by them, for the broadcasting and reception of messages to our best friends and comrades in times of deadly peril.

A humming noise proceeded from my receiver. I inclined my ear.

"To us, Motse! To us!" It was the voice of the Lady Tooella. "The current of our defensive tubes is depleted. To remain is to perish needlessly. To us!"

"I cannot go, Beloved and Gracious Lady!" I answered. "I must remain to save the Lady Lee Ann and the Princess Su Shinfah or perish with them."

"Farewell, then, Motse, beloved Brother of the Light! We go but to return soon. To the fastnesses of the kind Nab Shees, Motse! There we will look for you. Hasten! And if we meet no more we shall carry your memory always in our hearts. We have loved you, our Brother. Farewell! May your gods preserve you from the perils of this night!"

"Farewell!" came in the deep, tender accents of Yumatzin. Their great white horse rose like a gigantic bird straight into the air above the heads of those who would have destroyed them. I dared not wave my hand lest I be set upon and destroyed.

Little by little I made my way towards the spot where I had glimpsed the Princess Su Shinfah and my Lady Lee Ann, fairest and loveliest of all womenkind, and the timid and shrinking little Dah Leen standing with their backs to a monument of pink marble inlaid with jade. Guarding them on

either side were my dear friends Wang Yu and Lee Sen, cousin of the Lady Lee Ann. I noted with horror, as I watched them, that Lee Ann swiftly detached her own tiny protective contrivance from her bosom and fastened it to that of the frightened little Dah Leen and thrust her Disintegrator Tube into the hands of the child.

WITH the aid of her speaking tube that magnified and amplified her sweet, silvery, compassionate tones, the Lily of Dragonia entreated the mad, raging mob that lusted for her blood.

"DO NOT DESTROY THE MACHINES!" she implored them. "LET THE PEOPLE OWN THEM AND CONTROL AND SHARE ALIKE IN THEIR PRODUCTS! DO NOT DESTROY THE MACHINES LEST THE ANGER OF THE GODS FALL UPON YOU!" Her slender graceful figure swayed like a willow wand in the breeze as she implored them and bent her dark, compassionate eyes upon them. But the mob, hungry, clad in tatters, mad with bloodlust, illiterate as they were through no fault of their own, remembering old grievances, paid no heed to her. Cho Sen was at their head, Cho Sen with gaunt and haggard features and flashing dark eyes and bloody foam on his lips when he coughed.

"My starving brothers!" he called, and the mob stilled their roar a moment to listen. "Pay no heed to the emissary of your rich oppressors. See where she stands in her silken garments beside her richly clad sisters! They have never known the frightful pangs of starvation, the cold, the bousing in filthy dens where the sunshine never penetrates! Who are they to advise the workers who have made all and have nothing? Down with the machines!"

A spasm of coughing racked his thin frame and he staggered and fell, the

blood trickling from his mouth down his poor clothing. And so perished the little Cho Sen who had been born and lived on a farm and who would never again leap and sing with exaltation when the eastern sky was rosy as the petal of a poppy in the dawn; whose dimming eyes could never again behold "the sunshine making jewels of the dew!"

The mob surged forward with an appalling roar. To the best of their ability, Wang Yu and Lee Sen protected the women, but the batteries of their defensive plates also must have been exhausted. I saw Wang Yu stagger, put his hand to his breast and fall. Then Lee Sen went down as brown hands reached out and pulled him roughly from the base of the monument. A cry of mortal agony pierced to my ears above the tumult of the mob. I saw the Princess, the Lily of Dragonia, throw her own fair body over and across Wang Yu to protect him if possible at the cost of her own life. A second scream curdled my blood as I made a pathway of ashes through that mob to the side of my betrothed and her cousin, timid little Dah Leen. My own batteries were fresh and people died and fell back paralyzed into momentary helplessness. But as I reached her side she clutched her rounded breasts with an agonized look of pain and terror. Even above the roar of the mob I caught her terrified cry:

"Oh! I burn! Motse! I burn! The deadly fire has touched me! Save me, Motse, save me, my Beloved!"

I slipped where the lifeblood of the Lily of Dragonia reddened the base of the monument and when I regained my balance, where Lee Ann had stood there was but a little heap of ashes. Grief-stricken, I gathered them into my handkerchief and laid it above my heart. To linger longer was futile. I passed

through the horde of temporarily paralyzed, crazed brutes that once had been sane human beings, with the terrified child on my arm (she was nothing more) and so reached the little Gray-bird and old Fong who awaited me in the greatest anxiety and state of fear impossible to describe.

EARTHQUAKES added to the horror and confusion of that awful night of the Destruction of the Machines. Volcanoes long supposed to be extinct spewed forth great rivers of red and molten rock. As we passed high above city after city, we saw mighty buildings totter and go crashing to the ground that cracked into great crevices that swallowed up whole villages. Portions split off from lofty mountains, damming rivers and streams and changing their courses, drying up ancient lakes and making new ones. Vast numbers of people perished and animals as well, and afterwards gaunt Famine and hideous Pestilence stalked the land claiming added millions of victims.

"The Gods are angry at the destruction of the machines!" cried the superstitious people, cowering in fear.

At last some measure of order was restored. All the machines of every kind had been destroyed together with their owners and all inventors and mechanics save a few who escaped to foreign lands. The government was reorganized. The Emperor abdicated and retired to a monastery far distant from the capital where he had reigned. His spirit was broken by the death of his beautiful and idolized daughter, the gracious and compassionate Su Shinfah. The old conservative regime was restored.

"Never again shall labor-saving machines be made or used in the Land of Dragonia!" the edict went forth. "Henceforth no foreign devils shall

bring their magic to our country to bring sorrow and suffering to all."

"It is all the fault of the women!" cried the men, for once in perfect agreement. "It was a woman who brought us the secrets of the machines. Accursed be the memory of the machines forever and forever in the Land of Dragonia! Hereafter let the women remain at home and attend to their families. Let them not labor beyond the confines of their homes.

"Let not the fashions change! Let the women be simply and decently clad as in the olden days before the coming of the machines. In this way alone can industry be stabilized.

"Let the feet of the women who do no work be bound lest their owners stray from their homes and be led into temptation and mischief. Let them have a certain number of garments when they are wed and these shall suffice until they are outworn or until their owners have become too stout to wear them.

"They have refused to bear children. Let them have children from this day forth to the number that their husbands shall desire. Henceforth they shall remain at home and bear children and obey the will of their lords who are the natural heads and leaders of their households!"

And throughout the length and breadth of Dragonia were heard the wailing and moaning of girl children as the old women bound the little feet in conformity with the new law that they might cripple their owners and prevent their roaming from their homes. The tears of the mothers flowed freely to mingle with the tears of their suffering girl children at sight of their pain and deformities. The fact that many of them were to blame was of small comfort to them as is ever the way with all people.

CHAPTER VI

In the Mountains of Yunnan

MY OWN small airship was too tiny to attempt a crossing of the immense Sunrise Sea that stretches between the Land of Dragonia and the sunny Land of Neenitlan. I possessed not the fuel for its propulsion. Neither had I the necessary parts for replacement in emergency. I turned the head of the little Gray Eagle towards the Mountains of Nah Shee as Tooella and Yumatzin had directed me. I bore with me the little Dah Leen and my good old servant who begged to accompany me. We stopped at my lodge to recover a store of gold and jewels and some trifles that are dear to me. Fong guided the airship and I held the child in my arms during that never-to-be-forgotten journey on the most terrible night in the history of our land. We were received with cordial sympathy and welcome by the abbot of one of the monasteries—the good Mencius of Ko Long.

Always we watch for a sight of the great white horse of our friends from Neenitlan; but twice has the summer solstice come and gone since we descended to the green meadow near this monastery after the Night of the Destruction of the Machines and we have had no glimpse of the flashing of its silvery wings. Something has affected our tubes of communication, both of sight and sound. I am greatly apprehensive as to the welfare of our friends.

The little Dah Leen in spite of her grief and the ineffaceable impressions of that night of horror has developed amazingly into a most beautiful and charming young woman. She bears a striking resemblance to my lost love, her cousin, the sweet Lee Ann which is both a cause of pain to me and a source of consolation. At times I could almost

Imagine my dear one is at my side and when our hands touch by chance, there is the same interchange of magnetism I ever noticed when my hands came in contact with those of her cousin, the most beautiful, the fairest, the most charming of womankind, whose memory is not to be erased from my faithful heart this side the heaven where her pure spirit has found its proper abiding place.

The abbot has been much interested in the history of the introduction of the labor-saving machines and their destruction. He has begged me to set down the story for the instruction and edification of humanity in ages to follow, perchance. In this way I have relieved the tedium and monotony of this sojourn and also many apprehensive moments I might otherwise have spent concerning the fate of our friends. I have made two or three short flights above my beloved country and from what I saw and the reports that have been gathered at the desire of the good abbot I am certain that all my former friends and comrades as well as the parents of Dah Leen and all her relatives perished on that awful night. I have employed part of the time in her education. She is of unusual intelligence and has been of great assistance to me in the work of transcribing some of the old records of the monastery for my good friend the abbot, many of them so ancient that only portions of them may be deciphered and these with the greatest difficulty. I have learned much from these ancient scrolls. Last night the abbot said to me, after I had read him fragments from one of the most ancient writings:

"My son, history repeats itself. These scenes that you have so lately witnessed are as old as humanity itself, almost. They have been repeated, times

without number, and will continue to be so repeated until mankind has become wise enough and kind enough and unselfish enough to dwell together in harmony without an eternal reaching and striving for advantage over each other. Then shall men dwell together as brothers should dwell. And not until then shall we know the meaning of "the Brotherhood of Man and the Fatherhood of God."

AT LAST after this long period of weary and apprehensive waiting we have seen Tooella and Yumatzin and have learned the reason for their delay in returning to seek us.

On the Night of the Destruction of the Machines, there occurred in their own land of Neenitlan the greatest cataclysm in the history of our planet. In the twinkling of an eye it changed the face of their country as well as that of a great portion of the earth into a scene of death and devastation. Most of it sank beneath the waves. Such ruin was wrought that Tooella and Yumatzin were horrified. Most of their relatives and friends had perished although the Gods be thanked, their own immediate families had been spared. They set about directing their incredible energies towards the preservation and removal of the survivors to some of the colonies which their country had established in other places. Many times they had endeavored to communicate with us through the Tubes of Sight and Sound but in vain. Not knowing that our own instruments were defective, perhaps because of the tremendous vibrations of that night of horror, they concluded that we had probably perished. However, after their most pressing duties had been attended to and life had returned to something approaching normalcy again, they set out in search of us, with their youngest child, the lit-

tle Lee Ann. Great was their grief when I related the story of the fate of those with whom they had come in contact most in my native land, the lovely Princess Su Shinfah with her heart of compassion for all created beings either human or animal; my promised bride, unequalled for beauty and virtue and goodness amongst the women of earth; and their two noble companions, the scholarly Wang Yu and the noble and devoted Lee Sen.

Tomorrow Dah Leen and I return with Tooella and Yumatzin to their new home in one of the outlying colonies, with my old Fong who would be heart-broken at separation from me and gladly and valiantly undertakes this strange adventure in his declining years for love of his master.

My little Gray Eagle I am leaving with the good abbot who is well-nigh inconsolable at our departure in spite of his philosophy. We have promised to return from time to time and it would not surprise me in the least if in the end he were to surreptitiously as it were, accompany us, to behold for himself the wonders of the new land where Tooella and Yumatzin have settled.

It may chance that these records will remain hidden and forgotten like those of an earlier time that I have had the pleasure of transcribing for this holy man. Perchance they will be discovered and perused to the benefit of posterity.

I have done my best. The event is in the hands of

The Great Ones.

Low Motse, Sinalogue of Dragonia.

BURIED TREASURE



By WALTER LATHROP



THE lure of buried treasure is so strong that it attracts thousands of people. Very few of them actually find anything, but the search is exciting enough to keep them going, and who knows when fortune will be their reward. Quite often treasures are found by people who are not even looking for them. Not long ago, some small boys playing in a vacant lot, dug up a barrel of old ten dollar bills. In an old sewer on an island off the Florida coast, workmen found a barrel filled with old Spanish money. People have been burying their valuables for safe-keeping for many generations. Sometimes they forget where they buried it or die before they have a chance to disclose the hiding place, and the secret cache is lost till some lucky person stumbles on to it. There are stories that treasures are buried all up and down the Atlantic coast. From all the tales that have been told about the French and English privateers one would think that the islands of the Caribbean Sea would be solid with treasure. Enough gold is found from time to time to keep the legend going and to keep adventurers digging.

Captain Kidd, who was sent out by the governor of New York to capture pirates, decided that it was such a good deal that he turned pirate himself. But he was run down and hanged on Execution Dock in London in 1701, after having cashed away his ill-gotten gains. Many years later, \$70,-

000 worth was recovered. He had buried most of it on Gardiner's island off the coast of New York. For one hundred and fifty years, people have been digging on an island of Nova Scotia, where Kidd used to overhail his ships. Last year a big company with bulldozers moved in to carry on the search.

Jean LaFitte left caches of treasure all around the shores of the Gulf of Mexico. Men have been hunting in the bayous and marshes trying to locate the \$20,000,000 treasure that LaFitte and other pirates buried, according to tradition.

Black Caesar had a very colorful reputation. He had been a colored slave and managed to escape the slave ship and join up with Teach, the famous Blackbeard. Blackbeard used to part his whiskers in the middle and tie it behind his ears with ribbons. The waterways of North Carolina have been combed for the pearls, diamonds, gold, and silver that was left by Black Caesar.

Although pirates did make rich hauls, they weren't able to keep the whole thing. The leaders, like today's gangsters, had to pay huge bribes to corrupt port officials where they operated. Blackbeard had to split with the royal governor of North Carolina and Kidd had bankers among the respectable merchants of New York.

Very few pirates have ever lived to retire and enjoy their plunder even after they robbed, tortured, and murdered innocent people for it.



SCIENTIFIC ODDITIES

By LYNN STANDISH

SOUND BOMBS

SOUNDS are made up of waves that vibrate a certain number of times a second. High pitched sounds vibrate much faster than low ones. A fog horn, for example, sends out waves that vibrate about 16 times per second while a high shrill note on a piccolo is much faster, about 16,000 times per second. Sound travels much faster through water or solids than it does through air. Since it goes about five times as fast under water, a professor of Columbia University wondered why it wouldn't be a good idea to transmit sounds and code messages through the ocean. He reasoned that at four thousand feet the ocean forms a natural channel for transmitting sound waves over vast distances in all directions. This is because the warmer temperature of the water above throws the waves downward, while the greater water pressure of the deeper water bends the sound waves back up to the level of least resistance.

As an experiment, a sound bomb was dropped off the coast of Dakar in West Africa. It was set to explode at 4,000 feet. The sound of the explosion was picked up sixty-two minutes later by a listening device which was suspended in the water at a depth of 4,000 feet thirty-one hundred miles away in the Bahamas. This was the first time that sound had been transmitted such great distances under water. By using several listening posts that record the exact time and direction of the signal of a sound bomb, it is possible to locate the source of the bomb. With the aid of this new knowledge, scientists hope to be able to rescue ships in distress, castaways, and to locate submarine volcanoes, shoals and violent currents.

WANTED—GARBAGE DUMP!

THE chemistry books have made much of the fact that modern science is not wasteful. It even makes use of the pig's tail though it hasn't found anything to which the squeal can be applied. Regardless, and it is no joke, by-products of industry are utilized very efficiently and there is little problem connected with disposing of them—they are used.

Ah, but the atomic age has produced a unique problem, and while we may speak of it lightly, it is something to think about. The science and art of nuclear fusion like anything else, produces

quantities of by-products which must be disposed of. The question is: how?

You can't take useless radioactive materials and just dump them. They contaminate everything they touch with induced radioactivity—an obviously dangerous state of affairs. Up until now, it has been the general practice for plants producing radioactives, to bury them in ditches, deep in ditches in fenced-in areas around the grounds.

While this is satisfactory on a small scale, already it is giving trouble. Once the radioactives have been buried that ground they have touched is useless for a long time to come, in many cases, it is useless for centuries to come.

There is no way to destroy these materials by combustion. The ashes would remain radioactive and the exhaust gases would be virulent still. Furthermore once radioactive, always radioactive—there is no way to affect the process once begun.

A partial solution has been found by sealing the dangerous substances in huge blocks of concrete and dumping them in the middle of the ocean. Whether this is satisfactory remains to be seen of course. It probably is, but it is awfully inconvenient to have to go out into the ocean every time you want to empty the garbage can.

Scientists are now welcoming with open arms any invitations as to what to do with their insidiously dangerous radioactives. Find an answer and you're made!

COMBUSTION ENGINEERING

SEVERAL American engineering societies have suggested that some of the first rate schools in the country should start to work attracting high caliber students into some interesting courses that would eventually lead them to specialize in a subject which is becoming increasingly important—combustion engineering.

What is combustion engineering? It is simply the science which deals with the best methods of burning fuel. In spite of this being the "atomic age" most of our power including electric, automotive and so on comes from the burning of fuels like coal and oil and gas.

Burning substances like those has now become an exact science. No longer do we just throw a shovel full of coal on a fire in a power plant. Complex motor driven stokers controlled by numerous instruments feed exact amounts of fuel to

carefully constructed beds of fire, the idea being to extract every last unit of heat from the coal. The same is true of gas and oil. Not only is it necessary from an economical standpoint, but from sheer technical efficiency it is necessary to burn things carefully.

Combustion engineering is the science which analyzes the best way to burn these fuels, the best type of burner to use, and the best way to extract the best from the burning gases. It is becoming increasingly important—primarily due to the latest developments in aircraft—jets and turbines (gas).

In these machines fuels cannot be burned haphazardly. It is necessary to know exactly what cooks.

The precise proportions of air that must be fed to a burner, the exact design of the nozzle introducing the fuel—all these things must be known in great detail. Especial study is being devoted to measuring the temperature of flames at their various divisions.

With the development of new ceramic materials more knowledge of combustion is needed. Before atomic power enters the present picture, it is very likely that civilization is going to go through a stage of "gas-turbine" civilization. Gas turbines are efficient. But a lot of technical problems remain to be solved before they can become as common as reciprocating engines are today. But it is a fact that very likely the gas turbine will replace the Diesel locomotive just as the latter is replacing the steam engine.

Combustion engineering then is extremely important. Not only is it concerned with gas turbines, jets, power plants and so forth, but even in humbler things will it play a part. For example, the ordinary household gas or oil burner needs some first rate work in improving its efficiency. In fact, in a short while a new oil burner is coming out for household heating, patterned after a great deal learned from jet engines. Even the best stoker fed home furnaces are crude and inefficient. But combustion engineers are working on them. We can look forward to the day where coal can successfully be used in automatic home heating plants with almost the same ease as gas or oil.

If any of you are worrying about what's major in without entering a field that is overcrowded or one which lacks very much of a future, step into combustion engineering. We guarantee you'll get all burned up.

* * *

OL' KING COAL

A LOT of things have been used to measure the industrial standing of a nation. It has been said that if you look at the output of sulfuric acid or of oil or of chemicals, you can judge the industrial caliber of the nation that produced them. This is partially true, but far and beyond this is the fact that the real measure is something very common and matter-of-fact—coal.

Those nations, among the bigger ones particu-

larly, which have large natural deposits of coal are the world's industrial leaders. Historically the rise of nations as world powers came with their utilization of coal.

Consider England for example. This was the first nation to become truly industrialized and her industrial power during the Industrial Revolution of the nineteenth century was due directly to the use of her coal-beds, the output of which drove her steam engines, her ships and her mechanical tools. Germany was next and then the United States. Eventually as everyone knows the United States took the industrial lead away from both these countries and one of the major reasons today that the United States is the leader in world power is because she mines close to six hundred million tons of coal every year!

Already we can see the handwriting on the wall. Another colossus is arising in the world—the Soviet Union. She too is becoming now one of the world's great—right after the U. S., in fact—and this is due of course to the fact that she's producing vast amounts of coal—not as much as we are—but given time . . .

The reason for the importance of coal is not hard to see. First it is a basic fuel; steam engines (locomotives), electric power plants, chemicals—all these things that are at the root of industrial power are provided by coal. You have only to look at the sad plight of England during the last winter when her mines were not producing or when they were strike bound, to see how the nation was affected. Even the U. S. during the coal strikes had great problems.

The working of coal mines has always been a tough, dirty job. It has been a back-breakingly laborious type of work which today attracts fewer and fewer young men to it. In England, in Germany, in the U. S. getting enough men to work the mines is no longer the easy thing it once was.

But answers are being found to this problem too. Apparently no technological problem is so hard that it can't eventually be cracked. Mechanization, of course, is the right answer. Machines and more machines are being used. What kind of machines can be used in a coal-mine?

First, machines have been in common use for hauling the coal out of the mine as fast as it is cut. The electric locomotive hauling a string of cars has long been used in most U. S. and German mines. Now we have begun to replace it with flexible conveyor belts, a much simpler and faster system which can remove more coal faster than it can be cut.

Next, machines have been devised for the actual cutting of coal. This has always been a thorn in the operator's mind. But it has been licked. A huge cutter like a mechanical mole, driven by electric motors, cuts its way into the strips of coal and pours it out by the ton on the following conveyor belt. With electric cutters and haulers, the labor problem is being beaten.

Now the Bureau of Mines is conducting experi-

ments on a system which has been used in Germany and which today is also being used in Russia. This technique for getting power from the ground is unusual—the engineers have asked themselves, "why dig hundreds of millions of tons of coal from the ground only to throw it into a furnace? Why not burn the coal on the spot without ever taking it from the mines?" And they've come up with the answer.

When you start a coal mine on fire, you burn some of the coal naturally, but a lot of it goes up as coal gas. Pipe away the coal gas and use it—presto—that's exactly what is being done. A mine is set on fire under controlled conditions, with magnesium bombs. Enough air is pumped into the mine to sustain combustion, and the coal gas that is driven off is piped directly to the boilers. It's a lot easier to use the energy of coal in the form of gas, than in the form of hard chunky lumps. It's a much more flexible system.

Atomic power on a commercial scale is a ways off yet. And as most of our electrical power in the United States comes from coal—about eighty per cent of it—we're going to need a lot of coal for some time to come. Therefore, the Bureau of Mines is working out every conceivable method for getting the stuff out of the ground as easily as it can.

Should oil become critically short, as it has threatened to do, we can always make it from coal—another reason for mining lots of it by machine. The Fischer-Tropsch process, already in use on a small scale here, will provide us with oil and distillates for our jets should we need it.

Coal has ruled the industrial world for a long time and it now appears as if it is going to continue to do so for a long while. Between automatic mining machinery and gas-from-the-mine, we won't have too much trouble keeping up with the demand for black diamonds.

The applications of coal to the chemical industry, aside from energy, is also enormous. The story of coal-tar distillates in organic chemistry has been told often enough to clarify that position. Yes, it looks like coal is still King!

THE MECHANICAL BRAIN

ALL scientific research depends largely on numbers. Designing a new airship, atomic weapon, or tracing the path of a shell, all involves intricate calculations. Just a simple adding machine takes a lot of work out of these problems, but for the most difficult, scientists call on the gigantic machines that think with numbers. The largest of these machines is the ENIAC (Electronic Numerical Integrator And Calculator) at Harvard University. This machine is 100 feet long, three feet deep, and ten feet high. It contains about 18,000 radio tubes.

One of the biggest problems in designing this machine was to find a way to make the machine remember the numbers that it used in its prob-

lems. If you were working out a problem on paper that involved several steps, you would have to remember the answer from one step to help you with the next. In designing the machine, it was a challenge to find a way for the machine to recall numbers. One man came forward with the ingenious method of coding numbers in the form of dots, and sending them through a tube of mercury. When the coded numbers came through the far end of the tube, they could be sent back and forth through the mercury till they were needed. Thousands of numbers can be stored in this way.

There is another system which writes glowing numbers on the face of a vacuum tube with electronic beams. With enough tubes and photographic equipment, twenty digit numbers can be recorded.

Even more efficient machines than the ENIAC are on the planning board. These new machines solve in ten minutes, problems that would take a skilled mathematician three years, working day and night, to work out.

Calculating machines are being designed to compute, almost instantly the dozens of varying factors that influence the daily weather. The census bureau is awaiting the completion of a machine that can compute census problems that involve 100,000 five-digit numbers. The present system takes twelve days to do what the machine is expected to do in ten minutes.

DETECTIVES OF SCIENCE

THE unwillingness of man to suffer a moment's unnecessary pain has brought about a new scientific discovery. His time for a possible cure and preventive for relapsing malaria. A young man in a London hospital, a malaria patient, allowed himself to be bitten by a swarm of female anopheles, malaria carrying mosquitoes. A week later he allowed scientists to remove a part of his liver which, under the microscope, appeared to be infested with the seeds of malaria. The next step is to find some drug that can destroy these lurking malaria parasites.

During the war millions of soldiers became infected with malaria, and continued treatment with quinine and Atrabine kept it somewhat under control, but did not cure the disease. Patients continued to suffer relapses without any fresh infection. Following the first inoculation mainly from the initial mosquito bite, the parasites disappear inside the body. They stay in hiding until they have developed sufficiently to invade the red blood cells. Their hiding place had remained a mystery until, through the cooperation of the young British patient, it was discovered.

Before World War II, malaria was not considered a problem in this country, but now because of its recurrences among veterans, it is a major menace. But in the near future, scientists, with the cooperation of willing volunteers, may rid the world of another killer.

fantastic Facts

By LEE
OWENS

TWO-FACED GOD

THE Romans had some interesting divinities themselves, although the Greeks far exceeded them in number and charm. The Romans regarded Janus, the god of all things, as practically Jupiter's right hand man.

Janus presided over the beginning of all things, ranging from the years (January) and seasons, to all sorts of human enterprises. It was natural therefore that sacrifices be offered to him whenever anything new was undertaken. This is why the Romans attached such great significance to an auspicious beginning in any enterprise.

He was a sort of sun-god to the Romans. It was his duty to open and close the gates of Heaven. Because he was the door-keeper of the heavens, he was the god of all gates on Earth. As the god of city-gates, which were called Jani in his honor, we find that he played a role presumably in the Sabine wars.

After the Romans had invaded the Sabines and stolen all their women and transported them back to the city on the hills, the Sabines decided upon revenge. They assembled an overwhelming army and went to take Rome. Just as they were about to enter the gates of the city, Janus intervened to protect his favorite. He caused a huge stream of molten pitch to suddenly appear in the paths of the Sabines. Unable to penetrate it they were forced back and Rome was saved from a deserved invasion.

Every Roman house had an image of the god with two faces over the entrances to the home. The temple of Janus was far from conventional. It was simply a huge arch, an opening, a gate in form. The temple was only used in times of war. It was also assumed that the god left the city whenever the Roman armies took to the field and didn't return until they did. It is an interesting comment on the state of Roman war-likeness, when it is realized that the gates of the temple were closed only three times in about seven hundred years, indicating that the rest of the time the god Janus was absent with his men in the field.

The two faces represent Janus' ability to look back into the past and ahead into the future. In this ability he is comparable with the Grecian god of time Cronus, who had similar capabilities.

Janus was also presumed to be or rather to have been the oldest king of Italy before he became a god. Under his reign extreme prosperity was the rule and it was only when he became a god and no longer ruled directly, that Italy fell apart into a myriad of little city-states and kingdoms always at war with each other.

There is no connection between the sad and smiling countenance of the theater, so often used to represent happiness and gaiety, and Janus.

SMOKE THAT SOUNDS

MOSI-OA-TUNGA, or the Smoke that Sounds, was what native Africans called the dreaded Place. Monsters and evil spirits made their home there, and no mere human dared get close. An immense river disappeared at the Place, and there was a constant dreadful roar, while continual columns of white smoke reached into the sky. A terrifying spot, indeed, known far and wide among the Negro tribes, and avoided by all.

Then came David Livingstone to open up the Dark Continent, exploring its vast reaches, discovering its strange birds and animals, contacting its tribes who had never seen a white man before, unlocking its secret doors, exposing the facts behind its myths and legends.

Down the great Zambezi River he pushed his way, where no European had ever before ventured. His black friends told him they were getting too close to that fearsome place, Mosi-oa-Tunga. With difficulty he persuaded them to stay with him, as they slowly, cautiously, floated nearer the mystery of the sounding smoke.

Then, in the distance ahead, they saw the great curtain of whiteness reaching upward to the clouds. And a deep and terrible roaring grew louder as they approached the Place. As the party drew nearer, they could see the green jungle straight ahead. Apparently the river disappeared into the roaring white wall!

Dr. Livingstone would surely have been deserted at this point by the natives with him, if he had not inspired in them such loyalty and love, such awe and reverence for his courage and abilities. The explorer could not turn back. Mile-wide rivers just did not terminate in a sky-reaching mist, although occasionally they vanished under-

ground. Dr. Livingstone had to find out.

They left the ever more swiftly moving current, and landed on an island, the further end of which was hidden in the whiteness ahead. Carefully, the men pushed through the underbrush.

What a moment it must have been, when suddenly they came to a point where the age-old mystery unfolded its secrets before their eyes! Just ahead of them, stretching half a mile to each side, was an enormous waterfall. The terrifying roar was caused by the headlong plunge of the great river, for three hundred and forty feet. The crack in the rocks into which the river falls is only two hundred and fifty feet wide. The outlet, invisible from the river above, is a narrow slit in the center of a chasm, a funnel only a hundred feet in width.

No wonder the mist and spray reaches skyward for a thousand feet! After its plunge, the greatest fall of water in the world, the mighty river boils and surges in chaotic madness in its confining cage, until it finds the narrow outlet gorge, down which it dashes savagely, seeking freedom from restraint. Small wonder the sound of that cataract frightened superstitious natives. Its voice is one of the most terrifying sounds ever made by the forces of nature.

Livingstone named the Falls after his Queen, Victoria. Victoria Falls, in South Africa, is one of the three greatest waterfalls in the world. Only Iguazu in South America, and our own Niagara, can compare with it.

* * *

MARS, THE MARTIAL

THE Greek God Ares, became a god of the Romans under the name *Mars*, but unlike his predecessor the Roman god strongly stressed the war-like aspects of his reign. The Romans were a warring people always concerned with their enemies, always ready to fight. What was more natural than that they should make any god who gave the suggestion of militancy, a strongly martial flavor?

The Romans looked upon Mars as the natural protector of their empire. Next to Jupiter, he was the All-highest. He was supposed to have been the father of Romulus and Remus, the founders of the city-state. Never-the-less, the Romans did apply the title of god of agriculture to him as well. Mars was also called *Gracchus* (from "to step") because they believed that he marched before them in battle, invisible but protecting.

In the Roman ritual, twelve priests were assigned to each of his temples. They were called the *Salii*, because they danced in a weird ceremonial form dressed in full armor, before the mighty god. The priests were chosen from high-born families and it was considered the greatest honor to become a priest of the god. The priests carried special shields of brass, and it was their duty to guard these shields with their lives, for upon their preservation depended the fate of the

Roman Empire.

Mars had a female counterpart in the form of a goddess called *Bellona*. She strode over the battlefields in full war panoply, shouting at the top of her voice and committing cruel acts upon the fallen.

Victoria was another goddess associated with Mars. She was the goddess of victory and was called in Greek "*Nike*." She was often represented in the sacred statuary as having her foot planted on a ball and chain, and she was usually posed in the act of inscribing the story of the victory on the victor's shield.

Mercury (the Grecian "*Hermes*") was also akin to Mars. He was the spirited messenger and ambassador of the gods. He was also the patron of education both civil and military and he was felt to be the source of eloquence, the mover of men's tongues. As a side-light to show the many variations in character that were his, he was popularly assumed to be the patron of thieves and thievery and criminals often prayed to him.

* * *

PRINCESS OF LOVE

OF ALL the gods and goddesses, the vast multitude who peopled Greek mythology, none is more romantic or fascinating than the goddess of love, Aphrodite. Known to the Romans as *Venus*, this lovely creature bears around her some of the most intriguing tales to be told in all mythology. Her very birth is a charming example of Grecian imagination.

Aphrodite, means "issued from sea-foam," and describes the origin of the goddess. She was the daughter of Zeus and Dione. The King of Heaven Uranus, was wounded in a battle with his son, the god of time, Cronus and the blood from his wound trickled down into the sea. The waters bubbled beneath the falling blood, acquired a rosy tint, and out of the depths of the sea, in eye-astonishing loveliness, rose the full-blown Aphrodite, standing on a large sea-shell. The waters that trickled off her, changed at once into pearls. A breeze arose, wafting her to the island of Cyprus. When she stepped ashore, this barren land was transformed into a most enchanting and gorgeous mass of fertility. The trees bloomed, flowers came into being and everywhere there was the scent of fresh fertile country. When the gods saw this adorable creature they all fell in love with her and everyone tried to win her. Finally Hephaestus, the god of fire, succeeded in winning her, but he soon found that he had made a sorry bargain. In spite of everything he could do, she exhibited the most brazen faithlessness. At one time or another she made love to practically every god and a good many mortals. She distributed her charms freely.

Everyone is acquainted with the famous *Venus of Milo*, that magnificent statue in the Louvre in Paris, and while in terms of our modern standards of feminine beauty is somewhat too full-blown to suit our tastes, it must be admitted that she is a

creation of perfect symmetry and form.

Early Biblical interpreters identified Aphrodite with Astarte, or Ashtoreth, those infamous goddesses of idolatrous and monstrous worship, as appealing to the senses too much and being the very interpretation of sensuality.

The Venus of the Romans was identical with Aphrodite in every respect. In decadent Rome, more worship of her existed than of any other god. Early Christians, harangued against the worship of Venus very strongly. When the Christians finally attained the strength and power to overthrow the Greek and Roman gods, they particularly invoked destruction down upon the temples of Venus. And for a long time it was regarded as a sign of degeneracy to exhibit any interest in this flower of Greek and Roman culture.

* * *

WORLD TRAVELERS

BIRDS are probably the most traveled creatures on earth. They make the most amazing journeys each year. You have no doubt noticed the flying wedges of geese and ducks on their way to summer or winter homes, but the smaller birds do their traveling at night and we seldom see them. Strange stories have been made up to explain their sudden disappearances. Some people said that they flew to the moon, and others believed that they hurried themselves at the bottom of lakes. Some imagined that they hitched rides on the backs of storks and geese and were carried to warmer climates.

Within the last sixty years, curious individuals and the Wildlife Service have been banding birds and letting them go again. In this way it has been possible to trace the routes of different birds to discover in what countries they spend their winters.

Some of the true stories about birds are almost as amazing as the fables. In the autumn, flocks of small golden plovers gather on the shores of Alaska and then take off across the Bering Sea to the Aleutians. From there they go to Hawaii which is 2,000 miles to the south. The eastern golden plovers that nest in the Canadian Arctic, cut across the Atlantic to South America. They winter in Argentina, and in the spring they come back by way of the Mississippi Valley. The round trip covers about 20,000 miles. It is a mystery how these little creatures can find their way about through the pathless air. For land flights, they need good eyesight and memory for landmarks, but it remains anybody's guess as to how they can fly thousands of miles over the open sea straight to their destination.

The fur seals of Alaska are travelers too. During the summer breeding season they live on some tiny islands in the middle of the Bering Sea. In the fall, they swim southward and the bulls spend their winter in the gulf of Alaska, but the females and the young fur seals go on to the open ocean

off the coast of California. They have been seen as far south as Santa Barbara, but they never come near shore unless they are sick or injured. In the spring they begin the long voyage home. They travel in a straight line as if they were being directed by a compass, even though they are out of sight of land for nearly half the journey. The bulls, not having so far to go, reach the Bering Sea islands in May, but the cows, each carrying an unborn seal, arrive in June. The young seals who seem in no hurry, don't reach their home base till July or August.

* * *

TITANIUM, THE TITAN

A VERITABLE titan among metals has sprung up in the last year or so. New metals, or rather uses for old metals hitherto regarded as laboratory curiosities, have been coming into the picture recently in numbers. Selenium, magnesium and others are typical examples. Until chemists could extract such metals economically, they were regarded as interesting, but impractical.

Titanium is one of these. It has been known for a long time. It is extremely plentiful for it has been calculated that one-fourth of the Earth's crust is made up of it. But it has never before been extracted in amounts greater than those necessary to determine its chemical properties. Dupont however, now has a plant which is producing it at the rate of hundreds of pounds per day and this rate will soon be stepped up.

In weight it is about half way between iron and aluminum, it is silvery-white like aluminum, it has a tensile strength twice that of steel, and it is ideal for alloy work.

It is quite likely that as soon as the price comes down considerably further from its present five dollars a pound, it will be used extensively. One of its most valuable properties is its resistance to corrosion, so good in fact, that it is likely that it will replace stainless steel with its rare chromium and nickel necessarily imported. Watch for the practical uses of titanium, the giant among metals!

* * *

GOLDEN CHARIOT

THE warrior chieftains of old who rode into battle in their golden chariots have nothing on Nuhar Gulbenkian, a wealthy middle eastern oil magnate. He is currently riding through the streets of London in his own private golden chariot. It is really a gold Rolls-Royce designed to his specifications. It is so streamlined that there isn't a projection anywhere. The doorhandles are set in and the wheels are hidden. Inside the beautiful upholstery is laid out in sumptuous curves. There is not a corner in sight. This golden chariot will do ninety miles an hour with ease. It took a year to build it and cost Gulbenkian only a mere forty thousand dollars.

READER'S PAGE

SHE HAS TO TELL SOMEONE!

Sirs:

Here I am, a new reader of FA and AS, and wanting like mad to tell someone about it. How have I ever missed these magazines for so long?

Does anyone want to know how I rate the authors I know up to date? Well here they are anyway:

Shaver—love that man! When I read his stories I keep glancing into corners, looking for deros.

Rog Phillips. His stories fascinate me, even though I don't understand all of them.

Livingston. I look forward to his stories. I can't put one down until I have finished it.

I'm also a Lovecraft and Merritt fan. Two of the world's really great writers.

A few others I'd like to mention that I consider very good too, are: Geier, McGivern, Myers, Francis, etc. I guess I had better stop. Anyway, now you know you have one more permanent fan.

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Oh, yes, how about a new Shaver story in the style of "Slaves of the Worm"? That was really a top story. All for now.

Guess you really mean it, Joyce. We welcomed you into the fold last month, but you can't seem to get over it! But that's all right with us, just keep up that fervor for your favorite mag! Anyway, we're glad to hear from you again, and let us know how you liked this issue. . . . As to your favorite writers, yep, they're right on our list of favorites too! . . . Ed.

OH, CRUEL WORLD . . .

Sirs:

Since I first picked up a copy of FA, many long years ago—too many as far as my memory of dates is concerned anyway—I have been an ardent fan of both FA and AS. But!—

Suddenly on December 8th, at exactly 6:44½ p.m. I became so very exasperated with you! Why? Well, as my feet did carry me through the portal of our local magazine shop, my eyes fell on the latest issue of FA perched brazenly on its shelf. After investing the proper amount of legal tender this work of art was mine. . . .

But can you imagine my utter dismay on reading Chet Geier's "The Return of Sinbad" to find that I was planning on page ten of my own manuscript what Chet had written on pages 16, 17, and part of 18 in FA? So here I am, faced with the cold facts of reality—dream up a new plot! Oh, cruel world!

But anyway, Chet did it far better than I ever hoped to accomplish. . . .

A. L. Merritts,
4000 S. Figueroa St.,
Los Angeles, 37, Cal.

We can imagine what a surprise that must have been! And it only goes to prove that maybe there is more to this mental telepathy than we think! But we do breathe a sigh of relief knowing that your disappointment was so short-lived. And we agree with you—Chet really did a terrific job on the Sinbad story. . . . Ed.

PAGING CON PEDERSON

Sirs:

This is an open letter to Con Pederson of Inglewood, California, whose letter appeared in the January issue of FA. I quote him: "Mentioning Shaver and Lovecraft in the same breath is ridiculous—blasphemous. There is no comparison."

How right he is!—But not in the way he means. In the first place, it takes a mighty deep breath

to do justice to either one. Who gets blasphemed? Ridiculous? Yes—because there is really no comparison. Lovecraft and Poe, perhaps. Their work is similar. Both gave emphasis on the perfection of words and phrasing. Fiction based on legend and mythology at times.

Shaver's words and phrasing are completely different. He seems to want to get the story across without seeking for "literary perfection." More like facts disguised as fiction. I could be wrong, of course, but I've read them all, and am still a Shaver fan. Also Lovecraft and the rest.

The January issue of FA was swell. Especially Geier's "Return of Sinbad" and Roger Graham's "Unforeseen." Thanks a lot.

Mrs. Sherry Andria,
2181 Shurtleff Ave.,
Napa, Cal.

O.K. Sherry, there's your open letter. And we think you've approached the subject from a very reasonable point of view. How about the rest of you readers? Do you agree?.....Ed.

ANOTHER VIEWPOINT

Sirs:

I'd like to make a somewhat belated reply to a letter that appeared in your October issue last year. I'm speaking of a letter by Paul Lowman Jr. It seems that Mr. Lowman doesn't care for the stories of Dick Shaver. . . . Well, I'm glad to say that I enjoyed "Slaves of the Worm" better than the stories "The Lurking Bear," "Cool Air," or even "Pickman's Model," by Lovecraft. Of course, all of these stories were bumdingers, but so was Shaver's. So much for that.

The first story I ever read in FA was "Ice City of the Gorgon" in your June issue of AS, and I've been going crazy getting back copies of your magazines ever since then.

My favorite authors are: Shaver, Livingston, Wilcox, Phillips, and Lee Francis.

Your best cover artist is Bob Jones. Interior artists, Jones, Rod Ruth, and Malcolm Smith.

The best stories I read in your '48 issues are: "Slaves of the Worm," "Zero A.D.," "Forgotten Worlds," "Queen of the Panther World," and "The Lavender Vine of Death."

I'll be looking for all new issues!

Richard Mattson,
Rt. 1, Box 72,
Rosenau, Minn.

O.k. Dick, we're glad to present your views on the Shaver controversy. And we hope you'll continue to inform us of how you like the new issues.....Ed.

WORD FROM GERMANY

Sirs:

This is my first letter to a magazine, and I am sorry that it has to begin with a complaint. But your December issue was very disappointing to me. There I was, reading "Outlaws of Corpus," as interested as I could be, and then on page 34 it jumps to page 67 to a story called "Fountain

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of Change." Normally I wouldn't care about these mistakes, but where I am it's almost impossible to duplicate any given issue of a magazine. I'm hoping you'll be able to send me a copy with the complete story in it. . . .

I always read the "Reader's Page." People are always talking about who is the best author of sf and fantasy. To me, there is only one and I'm sure he will remain the only one—Lovecraft. As far as Shaver is concerned, although some of his writing is good, I just can't see most of the things he writes. There are quite a few discussions in this unit between us fellows who read sf and for the most part Shaver isn't liked too well.

I would like to give my opinion on a few stories that I have read recently in FA.

"This Way To Heaven" was the best in a long time.

"Brainstorm" was different. I missed hedcheck reading that one.

As to your illustrators, I think that Rod Ruth is one of the best.

Thanks for letting me express my opinions, and keep up the good work.

Cpl. H. C. McCready, RA 17191997,
Hq. Det. 7815 SCU,
APO 178,
Box 217,
c/o Postmaster, N. Y.

We'd like to apologize for that particular copy of FA you mentioned. And we've got another one on the way to you right now. Hope you get it all right. And let's hear from you again. . . . Ed

A FIRST LETTER

Sirs:

This is my first letter to your magazine, and I'm hoping it will be printed.

I would like to know what has become of such writers as Edmond Hamilton, Nelson Bond, and E. K. Jarvis. It seems that there are too few stories of the type of "The Star Kings." Also, let's have Lawrence Chandler back with another long novel length story.

My favorite stories to date are:

"Star Kings" by Hamilton, an unbestable yarn.

"Hidden City" by Geier. Best of Chet's.

"Forgotten Worlds" by Chandler—superb.

"The Vengeance of Martin Brand" by Irwin.

"Double For Destiny," also very good.

My opinion of Shaver is that he should write straight sf and leave the cave stuff alone. Then he would be better. . . .

In closing I would like to say that I think your magazines are tops, and just keep giving us the kind of stories you are.

Paul Pearson,
1810 Shaw Ave.,
Akron 5, Ohio.

Glad to have you with us, Paul. One of the authors you ask about, E. K. Jarvis, is in this very issue with a new short novel. Hope you like it. . . . Ed.

EARTH-SHAKER!

★ By J. R. MARKS ★

ONE of the definitions of the word civilization incorporates in it the description "Man's ability to change his environment." This seems to be eminently sensible. All that is necessary is to examine the surface of the Earth and see how Man has changed it. Unfortunately, the war has shown in one way how he can change it for the worse.

But from a constructive viewpoint, look at massive projects like Boulder Dam, the Panama Canal, the George Washington bridge.

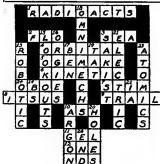
And today even more gigantic earth-moving projects are under way. They receive less publicity than formerly because what was once regarded as a revolutionary job, is now regarded as routine, primarily because of the development of vast amounts of earth-moving machinery. Everyone is familiar with what these mechanisms did with airfields, camps and other facilities of the Second World War.

The combination of the rubber tire with the internal combustion engine made all these improvements in earth-moving equipment possible. Until machines were fashioned, earth-moving was done almost as poorly as it had been done back in the days of the Pharaohs—with pick and shovel. Explosives contributed their share too.

Power shovel, truck, graders, Diesel engines, pumps, explosives and a host of other things have made it possible today to change any part of the surface of the Earth. The world is a changed place because of such machinery.

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(SEE PAGE 87)



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which shoots a stream of electrons in a straight line. At the opposite end of the flared tube is a screen and when the electrons strike this screen they cause it to glow briefly.

If the electron beam is modulated or moved within the tube from the outside by means of either magnetic fields or electric fields, a picture will be drawn on the screen. At first the CRT (as it is now called) was used to picture, for the benefit of engineers, very rapid transient phenomena which couldn't otherwise be seen. The way current and voltages behave in a radio set or a power line where they surge and flow in a few millionths of a second, are clearly shown on a CRT. This is possible because the physical inertia of an electron beam is practically nothing and it will respond to any force no matter how minute or how rapidly changing.

With the photo-cell and the CRT, the infant art of television had its basic elements. The problem was to combine them into something which would produce a satisfactory image. In early television work, scientists thought up ingenious schemes of scanning an image, i.e., breaking the light into electrical impulses which could be used to modulate a radio transmitter, but they always ran into difficulty. Because crude mechanical scanning was necessary and electric motors required synchronization, the resultant images were terrible to behold. Then Zworykin, the great American electronics engineer, along with German, English and other Americans, at about the same time invented purely electronic systems of scanning which culminated in the Iconoscope tube which is really a blend of the CRT and the photo-cell.

The light image is allowed to fall on a photo-sensitive screen made up of thousands of tiny photo-electric cells. These cells are really minute droplets of light-sensitive silver deposited on a screen of mica and electrically insulated from each other. Now if there were some way to rapidly scan these cells, their varying currents could be translated into electrical impulses which could be amplified and fed to a transmitter.

There is where the CRT came into the picture.



A. D. Crane

**If any reader
will permit me
I will send my
TELEPATHIC
messages.**

I first reach the subconscious while you sleep, bringing inward courage and strength and showing the heart that we are connected by the cosmic radiance, and are all one. This unity is a power for healing, for serenity, for attracting all of the best, and for helping others.

From places to which I have sent such messages wonderful cures have been reported. If you are so healed you will be under no obligation whatever. I am glad to meet all expenses, because of the opportunity for spreading the good news of glad tidings, which is all I live for.

I will also mail you my \$2.50 book "Cosmic Rays and Cosmic Consciousness" (acclaimed as revolutionizing science) for study. But you will be under no obligation to buy it. You can decide in 30 days whether to return it, or send check.

Write me all your desires, symptoms and troubles. None but myself will open or see your letter and my reply will be as personal. A. D. Crane, author, Kingsport 1, Tenn.

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By means of magnetic fields an electron beam was caused to scan the thousands of little photo-electric cells. The output was then a current which varied in accordance with the image on the screen. This could be fed to a transmitter.

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The development of this process as applied to television and radar is typical of science. A whole lot of isolated facts are discovered, a hunch of apparently unrelated instruments are devised. Then some clever guy combines them all and produces a finished product which exactly answers the problem at hand. One little ingredient is all that is necessary—genius!

LOVE'S ELIXIR

★ By A. MORRIS ★

UNLIKE the common field elixirs that are supposed to unite people in love, the ancient Greeks have a tale of a gadget that does the job more simply—and there is a certain cleverness to it.

The Greek God Hermes was given a gift by Apollo as a reward for promising not to steal any of his musical instruments. Hermes was noted for his thieving ability. And Apollo loved music and musical instruments so much he had to stop Hermes some way. So he devised this unusual gift.

He handed Hermes a wand of gold surmounted by a pair of golden wings. This staff, he pointed out, had the miraculous property of uniting in love any who hated each other. Hermes wanted to check on this. He saw a pair of snakes fighting with each other so he threw the staff down in their midst, and lo, they stopped fighting at once and entwined themselves around the staff remaining forever after attached to it!

The wand, known as a Caduceus, as always remained the symbol of Hermes (Mercury). The wings atop the staff stand for speed and the snakes twined about it, for wisdom.

Hermes was later given a silver cap studded with wings and silver wings for his feet, and with these aids to swiftness he was given the honor too of escorting the shades of the dead to Hades, at least to deliver them into the hands of the hostman at the River Styx. Whenever skill or courtesy or speed was needed by the gods, they always chose Hermes, for having gotten over his juvenile mischievousness, he became quite trustworthy and reliable. He performed many deeds of valor, including killing the hundred headed guardian of Io.

GRECIAN SPHINX

★ By CAL WEBB ★

THE Egyptian Sphinx is well known to all lovers of mythology. Like her counterpart in the Egyptian desert, she is always pictured as a lion couchant, with the head and bust of a woman. About the head is a peculiar head dress and on the Sphinx's face is an inscrutable expression of deep mystery. This is in keeping with her role as the Egyptian goddess of wisdom and fertility.

The legend of the Sphinx was transplanted into Greece, but in a considerably changed and modified form. She becomes a minor deity with none of the goodness of the Egyptian characterization. And all she has to do with humans carries a negative harmful weight.

The Greeks thought of the Sphinx as the descendant of Typhon and Echidna, the latter a monstrous thing, half-girl, half-serpent, and her function was that of a questioner. Zeus' wife Hera, became angry with the Grecian Thebans and as a punishment she sent this horrible monster to them. The sphinx sat on a rock near the city of Thebes, located in a pass through which all must go to obtain access to the city. To all comers she offered a riddle and if the riddle was not answered correctly, the Sphinx, tore the failures to pieces.

King Creon ruled Thebes at the time, and as head of the local chamber of commerce, he found the toll the sphinx was taking of passers-by was too heavy. He decided to do something about it. He appealed to the famous oracle of Delphi who told him that there was only one solution. If the Sphinx was answered correctly in one of her riddles, she would hurl herself to the rocks below in a gesture of defeat and resignation. Creon therefore made a public offer to his citizens. He offered the hand of his sister, Jocaste, and the throne, to anyone who could rid Thebes of this hovering dread. Oedipus, a Theban, took on the challenge. He went to the rocky crags where the Sphinx sat in her awful power and asked her to propose a riddle to him. This she did. "What creature goes in the morning on four legs, at noon, on two legs, and in the evening on three?" she asked.

Oedipus knew the answer. "A man," he replied, because during infancy he crawls on all fours, in his prime he walks erect, and in his old age, uses a cane, in effect, a third leg. And when the Sphinx heard this answer she knew she was beaten. She hurled herself from her prominence and disappeared from the ken of men.

Almost invariably the Grecian Sphinx is shown with wings and being physically much smaller than the Egyptian.

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MAG AND GRAV



By LESLIE PHELPS



THE facetious title applied to this article actually is a mask for what may be regarded as one of the most important problems in modern physics. For the longest time, and particularly during the last forty years, it has been the fabled wish of men like Schroedinger, Einstein, Heisenberg and other great theoretical physicists to define the correlation between gravitation, and electricity and magnetism. Electricity and magnetism are in some subtle way different aspects of the same thing as can be readily shown. But Gravitation—what a problem. It refuses to be brought into the fold.

Einstein's famous "unified field-theory" has concerned itself with an effort to connect the two quantities, electromagnetism and gravitation but without success.

Some years ago however, it was suggested by an English scientist, also a theoretical physicist that there was a definite correlation between these quantities, capable of not only theoretical understanding but also of experimental proof. He has maintained that any rotating body has associated with it, a magnetic field! Now gravity is associated with mass.

When a massive body rotates—that is, any

body—he claims that a magnetic field is produced and he also claims that basically that is what the Earth's magnetic field is all about.

This is extraordinary if true. The question is, can it be proved? Well, it seems now that the laboratories are beginning to drag out some answers. That wonderful and useful tool of the physicist, the spectroscope, probably will be the answering instrument. It is a known fact, that spectral lines are changed when subjected to a strong magnetic field. If this is so, it is obvious that even the fields of stars may be examined—including our sun.

The scientist claims that the reason the relationship, and the creation of a magnetic field by any rotating body was not hitherto detectible, was due to the fact that the resultant field is extremely minute and until the refinements that accompanied the development of the spectroscope were made, it was impossible to sense these delicate changes.

While the definite proof is not here yet, we are well on our way to realizing the goal of modern physicists, the solution of that intensely important problem—what is the relationship between gravitation and magnetism?

Christ. God, Man or Myth?

Did Christ himself write down any record of His life? If so, where are these writings today? Do they exist in any museum or library or secret shrine? Can you find a trace of them in the vast and mysterious subterranean archives of the Vatican in Rome? The answer is NOT! Nowhere has any man been able to discover a single word that Jesus wrote!

Who, then, wrote the Christian Gospels? And when were they written? By some historian after the death of Christ? Or are these Gospels merely myths and legends handed down to us from a civilization that existed long before the time of Christ?

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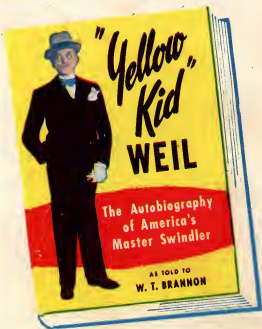
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